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TITLE 26—INTERNAL REVENUE, 1954

Chapter I—Internal Revenue Service, Department of the Treasury

[T. D. 6125]

PART 1—INCOME TAX: TAXABLE YEARS BEGINNING AFTER DECEMBER 31, 1953

ELECTION IN RESPECT OF DEPRECIATION

On December 14, 1954, a notice of proposed rule making with respect to section 1020 of the Internal Revenue Code of 1954 (Public Law 591, 83d Congress, approved August 16, 1954) was published in the FEDERAL REGISTER (19 F. R. 8537). No protests having been received, the regulations so published are hereby adopted, subject to the changes set forth below:

Section 1.1020–1 is changed by striking paragraph (d) and inserting paragraphs (d) and (e) in lieu thereof.

As amended, §§ 1.1020 and 1.1020–1 now read as follows:

§ 1.1020 *Statutory provisions; election in respect of depreciation, etc., allowed before 1952.*

SEC. 1020. *Election in respect of depreciation, etc., allowed before 1952.* Any person may elect to have subparagraph (B) of section 1016 (a) (2) apply in respect of periods since February 28, 1913, and before January 1, 1952. Such an election shall be made in such manner as the Secretary or his delegate may by regulations prescribe and shall be irrevocable when made, except that an election made on or before December 31, 1952, may be revoked at any time before January 1, 1955. A revocation of an election shall be made in such manner as the Secretary or his delegate may by regulations prescribe, and no election may be made by any person after he has so revoked an election. The election shall apply in respect of all property held by the person making the election at any time on or before December 31, 1952, and in respect of all periods since February 28, 1913, and before January 1, 1952, during which such person held such property or for which adjustments must be made under section 1016 (b). An election or a revocation of an election by a transferor, donor, or grantor made after the date of the transfer, gift, or grant of property shall not affect the basis of such property in the hands of the transferee, donee, or grantee. No election may be made under this section after December 31, 1954.

§ 1.1020–1 *Election as to amounts allowed in respect of depreciation, etc., before 1952*—(a) *In general.* (1) Any person may elect to have the adjustments to the cost or other basis of property under section 1016 (a) (2) determined in accordance with subparagraph (B) of such section by filing a statement of election in accordance with the requirements set forth in paragraph (b) of this section. Any election made after 1952 shall be irrevocable when made. Any election made after 1952 shall apply with respect to all property held by the person making the election at any time on or before December 31, 1952, and shall apply to all periods since February 28, 1913, and before January 1, 1952, during which such person held such property or for which adjustments must be made under section 1016 (b). For rules with respect to an election made on or before December 31, 1952, see paragraph (c) of this section.

(2) An election by a partner on his own behalf is not an election for the partnership of which he is a member. A separate election must be made on behalf of the partnership. (See section 703 (b) (relating to elections of the partnership).) An election on behalf of the partnership applies only with respect to the partnership, and does not apply to the separate property of the partners. A similar rule applies with respect to elections by trusts and beneficiaries of trusts. These rules also apply with respect to a revocation of an election where such election was made on or before December 31, 1952.

(b) *Rules applicable to making of election.* The following rules are applicable to the making of an election under section 1020:

(1) *Form of election.* The election shall be in the form of a statement in writing, shall state the name and address of the taxpayer making the election, and shall contain a statement that such taxpayer elects to have the provisions of section 1016 (a) (2) (B) apply in respect of all periods since February 28, 1913, and before January 1, 1952.

(2) *Signature.* The statement shall be signed by the taxpayer making the election, if an individual, or, if the taxpayer making the election is not an individual, the statement shall be signed by the person or persons required to sign the income return of such taxpayer.

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FEDERAL REGISTER

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CFR SUPPLEMENTS

(For use during 1955)

The following Supplements are now available:

Title 3, 1954 Supp. ($1.75)
Titles 30–31 ($1.25)
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(3) *Filing.* The statement must be filed on or before December 31, 1954, in the office of the district director of internal revenue for the district in which the income return for the year of the election is required to be filed. For rules as to when timely mailing will be treated as timely filing of the statement see section 7502.

(4) *Filing of duplicate.* A copy of the statement of election must be filed with the first return, amended return, or claim for refund filed on or after the date on which the election is made.

(c) *Election made on or before December 31, 1952.* An election made on or before December 31, 1952, in accordance with the provisions of section 113 (d) of the Internal Revenue Code of 1939, may be revoked by filing on or before December 31, 1954, in the same office in which the election was filed, a statement of revocation signed in the same manner as the election. Such statement made by any person is irrevocable when made with respect to such person, and no new election may thereafter be made by such person. A copy of the revocation must be filed with the first return, amended return, or claim for refund, filed after the date of the revocation. For additional rules with respect to election made on or before December 31, 1952, see §§ 39.113 (b) (1)–1 and 39.113 (d)–1 (Regulations 118; 26 CFR (1939) Part 39).

(d) *Validity of elections or revocation of elections.* An election or revocation of an election which conforms in substance to the provisions of this section will not be deemed invalid solely because it was filed before the date on which the regulations in this section were promulgated.

(e) *Effect of election.* For rules relating to the effect of an election under this section, see section 1016 (a) (2) and the regulations thereunder.

(Sec. 7805, 68A Stat. 917; 26 U. S. C. 7805. Interprets or applies sec. 1020; 68A Stat. 302; 26 U. S. C. 1020)

[SEAL] JUSTIN F. WINKLE,
Acting Commissioner of Internal Revenue.

Approved: March 8, 1955.

M. B. FOLSOM,
Acting Secretary of the Treasury.

[F. R. Doc. 55–2065; Filed, Mar. 10, 1955; 8:48 a. m.]

TITLE 14—CIVIL AVIATION

Chapter II—Civil Aeronautics Administration, Department of Commerce

[Amdt. 105]

PART 608—RESTRICTED AREAS

ALTERATIONS

Correction

In Federal Register Document 55–1890, published on page 1361 of the issue for Saturday, March 5, 1955, the area "R–453", appearing in the second line of amendatory paragraph 1, should read "R–463".

[Amdt. 133]

PART 609—STANDARD INSTRUMENT APPROACH PROCEDURES

PROCEDURE ALTERATIONS

The standard instrument approach procedure alterations appearing hereinafter are adopted to become effective when indicated in order to promote safety. Compliance with the notice, procedures, and effective date provisions of section 4 of the Administrative Procedure Act would be impracticable and contrary to the public interest, and therefore is not required.

Part 609 is amended as follows:

NOTE: Where the general classification (LFR, VAR, ADF, ILS, GCA, or VOR), location, and procedure number (if any) of any procedure in the amendments which follow, are identical with an existing procedure, that procedure is to be substituted for the existing one, as of the effective date given, to the extent that it differs from the existing procedure; where a procedure is canceled, the existing procedure is revoked; new procedures are to be placed in appropriate alphabetical sequence within the section amended.

1. The low frequency range procedures prescribed in § 609.6 are amended to read in part:

LFR STANDARD INSTRUMENT APPROACH PROCEDURE

Bearings, headings, and courses are magnetic. Distances are in statute miles unless otherwise indicated. Elevations and altitudes are in feet, MSL. Ceilings are in feet above airport elevation.
If an LFR instrument approach is conducted at the below named airport, it shall be in accordance with the following instrument approach procedure, unless an approach is conducted in accordance with a different procedure authorized by the Administrator for Civil Aeronautics for such airport. Initial approaches shall be made over specified routes. Minimum altitude(s) shall correspond with those established for en route operation in the particular area or as set forth below.

City and State; airport name, elevation; facility: class and identification; procedure No.; effective date	Initial approach to facility from—	Course and distance	Minimum altitude (ft.)	Procedure turn (—) side of final approach course (outbound and inbound); altitudes; limiting distances	Minimum altitude over facility on final approach course (ft.)	Course and distance, facility to airport	Ceiling and visibility minimums			If visual contact not established at authorized landing minimums after passing facility within distance specified, or if landing not accomplished
							Condition	Type aircraft		
								75 m. p. h. or less	More than 75 m. p. h.	
1	2	3	4	5	6	7	8	9	10	11
CHARLESTON, S. C. Air Force Base, Municipal, 45′. SBRAZ-CHS. Procedure No. 1. Amendment No. 11. Effective: April 8, 1955. Supersedes Amendment No. 10, December 3, 1952. Major changes: Raise procedure turn altitude. Raise final approach altitude. Correct distance to airport.	Charleston BVOR	190—5.0	1,200	S side NW course: 300° outbound. 120° inbound. 1,400′ within 10 miles.	700	105—2.9	2 engines or less			Climb to 1,800′ on E course within 25 miles.
							T-dn	300–1	300–1	
							C-dn	400–1	500–1	
							More than 2 engines			
							T-dn	----------	200–½	
							C-dn	----------	500–1½	
							All aircraft			
							A-dn	800–2		

2. The very high frequency omnirange procedures prescribed in § 609.9 (b) are amended to read in part:

TVOR STANDARD INSTRUMENT APPROACH PROCEDURE

Bearings, headings, and courses are magnetic. Distances are in statute miles unless otherwise indicated. Elevations and altitudes are in feet, MSL. Ceilings are in feet above airport elevation.
If a TVOR instrument approach is conducted at the below named airport, it shall be in accordance with the following instrument approach procedure, unless an approach is conducted in accordance with a different procedure authorized by the Administrator for Civil Aeronautics for such airport. Initial approaches shall be made over specified routes. Minimum altitude(s) shall correspond with those established for en route operation in the particular area or as set forth below.

City and State; airport name, elevation; facility: class and identification; procedure No. (TVOR); effective date	Initial approach to facility from—	Course and distance	Minimum altitude (ft.)	Procedure turn (—) side of final approach course (outbound and inbound); altitudes; limiting distances	Minimum altitude over facility on final approach course (ft.)	Course and distance from int. runway center line extended and final course to approach end of runway	Ceiling and visibility minimums: Condition	Type aircraft: 75 m. p. h. or less	Type aircraft: More than 75 m. p. h.	If visual contact not established at TVOR, or if landing not accomplished
1	2	3	4	5	6	7	8	9	10	11
CHICAGO, ILL. Midway, 618′. CHI-TVOR. TVOR—4-R, 4-L. Amendment No.: Original. Effective date: March 15, 1955. Supersedes No.: None. Major changes: None.	API-VOR	085—18.0	2,300	S side of course: 221° outbound. 041° inbound. 2,000′ within 15 miles.	Harlem Intersection or radar fix 1,500′.	From Harlem Intersection* or radar fix to CHI-TVOR 041—4.0.	2 engines or less			Climb to 2,500′, proceed to Tank Intersection# or when directed by ATC: (1) Make right turn, climb to 2,500′ proceed to Lakeshore Intersection. *Harlem Intersection: Intersection CHI-TVOR 221 R and CGT 320 R. #Tank Intersection: Intersection CHI-TVOR 041 R and CGT 345 R. Dual omni receiver required unless radar fix obtainable.
	CST-VOR	330—21.0	2,300				T-dn	300-1	300-1	
	CHI-LFR	156—2.6	2,000				C-d	500-1	500-1	
	Radar transition altitudes by sector:						C-n	500-1½	500-1½	
	From 185° clockwise through 360° to 60° within 20 N. miles.	----------	2,500				S-dn 4-R or 4-L	500-1	500-1	
	From 60° clockwise through 180° to 185° within 20 N. miles.	----------	2,000				A-dn	800-2	800-2	
							More than 2 engines			
							T-dn	----------	200-½	
							C-dn	----------	500-1½	
							S-dn 4-R or 4-L	----------	500-1	
							A-dn	----------	800-2	
CHICAGO, ILL. Midway, 618′. CHI-TVOR. TVOR—9-R, 9-L. Amendment No.: Original. Effective date: March 15, 1955. Supersedes No.: None. Major changes: None.	API-VOR	185—18.0	2,300	S side of course: 267° outbound. 087° inbound. 2,300′ within 15 miles.	Stinson Intersection* or radar fix 1,800.	From Stinson Intersection* or radar fix to CHI-TVOR 087—5.0.	2 engines or less			Climb to 2,300′, proceed to Yards Intersection# or when directed by ATC: (1) Make left turn, climb to 2,500′, proceed to Lakeshore Intersection; (2) Make right turn, climb to 2,000′, proceed to Momence Intersection. *Stinson Intersection: Intersection CHI-TVOR 267 R and CGT-VOR 320 R. #Yards Intersection: Intersection CHI-TVOR 087 R and CGT-VOR 345 R. Dual omni receiver required unless radar fix obtainable.
	CGT-VOR	330—21.0	2,300				T-dn	300-1	300-1	
	CHI-LFR	156—2.6	2,000				C-d	500-1	500-1	
	Radar transition altitudes by sector:						C-n	500-1½	500-1½	
	From 185° clockwise through 360° to 60° within 20 N. miles.	----------	2,500				S-dn 9-L or 9-R	500-1	500-1	
	From 60° clockwise through 180° to 185° within 20 N. miles.	----------	2,000				A-dn	800-2	800-2	
							More than 2 engines			
							T-dn	----------	200-½	
							C-dn	----------	500-1½	
							S-dn 9-L or 9-R	----------	500-1	
							A-dn	----------	800-2	
CHICAGO, ILL. Midway, 618′. CHI-TVOR. TVOR—18-R. Amendment No.: Original. Effective date: March 15, 1955. Supersedes No.: None. Major changes: None.	API-VOR	085—18.0	2,300	E side of course: 005° outbound. 185° inbound. 2,000′ within 15 miles.	Columbus Park Intersection* or radar fix 1,500′.	177—0.6 From Columbus Park Intersection or radar fix to CHI-TVOR 185—5.0	2 engines or less			Climb to 2,000′ proceed to Oak Lawn Intersection# or when directed by ATC: (1) make left turn, proceed to Lakeshore Intersection at 2,500′; (2) make right turn, proceed to Downers Grove Intersection at 2,500′; (3) proceed to Momence Intersection at 2,000′. *Columbus Park Intersection: Intersection CHI-TVOR 005 R and API-VOR 070 R. #Oak Lawn Intersection: Intersection 165 R CHI-TVOR and 100 R API-VOR. Dual omni receiver required unless radar fix obtainable.
	CGT-VOR	330—21.0	2,300				T-dn	300-1	300-1	
	CHI-LFR	156—2.6	2,000				C-d	500-1	500-1	
	Radar transition altitudes by sector:						C-n	500-1½	500-1½	
	From 185° clockwise through 360° to 60° within 20 N. miles.	----------	2,500				S-dn 18-R	500-1	500-1	
	From 60° clockwise through 180° to 185° within 20 N. miles.	----------	2,000				A-dn	800-2	800-2	
							More than 2 engines			
							T-dn	----------	200-½	
							C-dn	----------	500-1½	
							S-dn 18-R	----------	500-1	
							A-dn	----------	800-2	

TVOR STANDARD INSTRUMENT APPROACH PROCEDURE—Continued

City and State; airport name, elevation; facility: class and identification; Procedure No. (TVOR); effective date	Initial approach to facility from—	Course and distance	Minimum altitude (ft.)	Procedure turn (—) side of final approach course (outbound and inbound); altitudes; limiting distances	Minimum altitude over facility on final approach course (ft.)	Course and distance from int. runway center line extended and final course to approach end of runway	Ceiling and visibility minimums			If visual contact not established at TVOR, or if landing not accomplished
							Condition	Type aircraft		
								75 m. p. h. or less	More than 75 m. p. h.	
1	2	3	4	5	6	7	9	9	10	11
CHICAGO, ILL. Midway, 618′. CHI-TVOR. TVOR—22-L, 22-R. Amendment No.: Original. Effective date: March 15, 1955. Supersedes No.: None. Major changes: None.	API-VOR	085—18.0	2,300	W side of course: 041° outbound. 221° inbound. 2,500′ within 15 miles.	Tank Intersection* or radar fix 2,300′.	From Tank Intersection or radar fix to CHI-TVOR 221—6.0.	2 engines or less			Climb to 2,000′, proceed to Harlem Intersection#, or when directed by ATC: (1) Make left turn, proceed to Momence at 2,000′; (2) make right turn, proceed to Downers Grove at 2,500′. *Tank Intersection: Intersection CHI-TVOR 041 R and CGT-VOR 345 R. #Harlem Intersection: Intersection CHI-TVOR 221 R and CGT 320 R. Dual omni receivers required unless radar fixes are obtainable.
	CGT-VOR	330—21.0	2,300				T-dn	300–1	300–1	
	CHI-LFR	156— 2.6	2,000				C-d	600–1	600–1	
	Radar transition altitudes by sector:						C-n	600–1½	600–1½	
	From 185° clockwise through 360° to 60° within 20 N. miles.		2,500				S-dn 22-L or 22-R	600–1	600–1	
	From 60° clockwise through 180° to 185° within 20 N. miles.		2,000				A-dn	800–2	800–2	
							More than 2 engines			
							T-dn		200–½	
							C-dn		600–1½	
							S-dn 22-L or 22-R		600–1	
							A-dn		800–2	
CHICAGO, ILL. Midway 618′. CHI-TVOR. TVOR—27-R, 27-L. Amendment No.: Original. Effective date: March 15, 1955. Supersedes No.: None. Major changes: None	API-VOR	085—18.0	2,300	N side of course: 087° outbound. 267° inbound. 2,500′ within 15 miles.	Yards Intersection* or radar fix 2,000′.	From Yards Intersection* or radar fix to CHI-TVOR 267—5.0.	2 engines or less			Climb to 2,300′, proceed to Stinson Intersection, # or when directed by ATC: (1) Make right turn, climb to 2,500′, proceed to ILS LOM; (2) make left turn, climb to 2,000′, proceed to Momence Intersection. *Yards Intersection: Intersection CHI-TVOR 087 R and CGT-VOR 345 R. #Stinson Intersection: Intersection CHI-TVOR 267 R and CGT-VOR 320 R. Dual omni receiver required unless radar fix obtained.
	CGT-VOR	330—21.0	2,300				T-dn	300–1	300–1	
	CHI-LFR	156—2.6	2,000				C-d	500–1	500–1	
	Radar transition altitudes by sector:						C-n	500–1½	500–1½	
	From 185° clockwise through 360° to 60° within 20 N. miles.		2,500				S-dn 27-R or 27-L	500–1	500–1	
	From 60° clockwise through 180° to 185° within 20 N. miles.		2,000				A-dn	800–2	800–2	
							More than 2 engines			
							T-dn		200–½	
							C-dn		500–1½	
							S-dn 27-R or 27-L		500–1	
							A-dn		800–2	
CHICAGO, ILL. Midway, 618′. CHI-TVOR. TVOR—31-L. Amendment No.: Original. Effective date: March 15, 1955. Supersedes No.: None. Major changes: None.	API-VOR	085—18.0	2,300	E side of course: 122° outbound. 302° inbound. 2,000′ within 15 miles.	Abeam Kedzie Radiobeacon or radar fix, 1,500′.	312—0.5	2 engines or less			Climb to 2,500′, proceed to ILS LOM, or when directed by ATC. (1) Make left turn, climb to 2,300′, proceed to Downers Grove Intersection. (2) Make right turn, climb to 2,500′, proceed to Lakeshore Intersection. Dual omni receiver required unless radar fix obtained.
	CGT-VOR	330—21.0	2,300				T-dn	300–1	300–1	
	CHI-LFR	156—2.6	2,000				C-d	500–1	500–1	
	Radar transition altitudes by sector:						C-n	500–1½	500–1½	
	From 185° clockwise through 360° to 60° within 20 N. miles.		2,500				S-dn 31-L	500–1	500–1	
	From 60° clockwise through 180° to 185° within 20 N. miles.		2,000				A-dn	800–2	800–2	
							More than 2 engines			
							T-dn		200–½	
							C-dn		500–1½	
							S-dn 31-L		500–1	
							A-dn		800–2	
CHICAGO, ILL. Midway, 618′. CHI-TVOR. TVOR—36-L. Amendment No.: Original. Effective date: March 15, 1955. Supersedes No.: None. Major changes: None.	API-VOR	085—18.0	2,300	E side of course: 165° outbound. 345° inbound. 2,000′ within 15 miles.	Oaklawn Intersection or radar fix, 2,000′.	357—0.5 From Oaklawn Intersection# to CHI-TVOR 345—6.0.	2 engines or less			Climb to 2,000′, proceed to Columbus Park Intersection#, or when directed by ATC: (1) Make right turn, climb to 2,500′, proceed to Lakeshore Intersection; (2) Make left turn, climb to 2,500′, proceed to Downers Grove Intersection. *Oaklawn Intersection: Intersection 165 R CHI-TVOR and 100 R API-VOR. #Columbus Park Intersection: Intersection CHI-TVOR 005 R and 070 R API-VOR. Dual omni receivers required unless radar fix obtainable.
	CGT-VOR	330—21.0	2,300				T-dn	300–1	300–1	
	CHI-LFR	156—2.6	2,000				C-d	500–1	500–1	
	Radar transition altitudes by sector:						C-n	500–1½	500–1½	
	From 185° clockwise through 360° to 60° within 20 N. miles.		2,500				S-dn 36-L	500–1	500–1	
	From 60° clockwise through 180° to 185° within 20 N. miles.		2,000				A-dn	800–2	800–2	
							More than 2 engines			
							T-dn		200–½	
							C-dn		500–1½	
							S-dn 36-L		500–1	
							A-dn		800–2	

3. The ground controlled approach procedures prescribed in § 609.13 are amended to read in part:

GCA STANDARD INSTRUMENT APPROACH PROCEDURE

Bearings, headings, and courses are magnet C. Distances are in statute miles unless otherwise indicated. Elevations and altitudes are in feet, MSL. Ceilings are in feet above airport elevation.

If a GCA instrument approach is conducted at the below named airport, it shall be in accordance with the following instrument procedure, unless an approach is conducted in accordance with a different procedure authorized by the Administrator for Civil Aeronautics for such airport. Initial approaches shall be made over specified routes. Minimum altitude(s) shall correspond with those established for en route operation in the particular area or as set forth below. Positive identification must be established with the ground controller. From initial contact with GCA to final authorized landing minimums, the instructions of the GCA controller are mandatory except when (A) visual reference with ground is established on final approach at or before descent to the authorized landing minimums, or (B) at pilot's discretion if it appears desirable to discontinue the approach.

City and State; airport name, elevation; effective date	Radar terminal area; maneuvering altitudes by sectors and limiting distances	Ceiling and visibility minimums						Except when the ground controller may direct otherwise prior to final approach, a missed approach procedure shall be executed as provided below when (a) communication on final approach is lost for more than 5 seconds; (b) directed by ground controller; (c) visual reference is not established upon descent to the authorized landing minimums; or (d) landing is not accomplished
		Runway No.	Condition	Precision approach (PAR)		Surveillance approach (ASR)		
				75 m. p. h. or less	More than 75 m. p. h.	75 m. p. h. or less	More than 75 m. p. h.	
1	2	3	4	5	6	7	8	9
CHICAGO, ILL. Midway, 618′. Procedure No. 1. Amendment No.: 4. Effective date: March 15, 1955. Supersedes No.: 3 dated July 9, 1954. Major changes: 1. Revises item 2, due to change of statute mile scale on radar scope to nautical miles; 2. Form revised in accordance with new policy.	Radar transition altitudes by sector: From 185° through 360° to 60° clockwise 2,500′ within 20 nautical miles. From 60° through 180° to 185° clockwise 2,000′ within 20 nautical miles.	13-R	2 engines or less					Climb to 2,300′ and proceed on N and S course of Harvey LFR to Momence Intersection.
			T-dn	300-1	300-1	----------	----------	
			C-d	400-1	500-1	----------	----------	
			C-n	400-1½	500-1½	----------	----------	
			S-dn	300-¾	300-¾	----------	----------	
			A-dn	600-2	600-2	----------	----------	
			More than 2 engines					
			T-dn	----------	200-½	----------	----------	
			C-dn	----------	500-1½	----------	----------	
			S-dn	----------	300-¾	----------	----------	
			A-dn	----------	600-2	----------	----------	
		Following dual runways authorized with minimums listed: 36, 4, 9, 13, 27, 18, and 31; except 600′ minimum and visibilities as listed for above runways for runway 22-R and L.	2 engines or less					
			T-dn	----------	----------	300-1	300-1	
			C-d	----------	----------	400-1	500-1	
			C-n	----------	----------	400-1½	500-1½	
			S-d	----------	----------	400-1	500-1	
			S-n	----------	----------	400-1½	500-1½	
			A-dn	----------	----------	800-2	800-2	
			More than 2 engines					
			T-dn	----------	----------	----------	200-½	
			C-dn	----------	----------	----------	500-1½	
			S-d	----------	----------	----------	500-1	
			S-n	----------	----------	----------	500-1½	
			A-dn	----------	----------	----------	800-2	

These procedures shall become effective on the dates indicated in Column 1 of the procedures.

(Sec. 205, 52 Stat. 984, as amended; 49 U. S. C. 425. Interpret or apply sec. 601, 52 Stat. 1007, as amended; 49 U. S. C. 551)

[SEAL]

F. B. LEE,
Administrator of Civil Aeronautics.

[F. R. Doc. 55-1891; Filed, Mar. 10, 1955; 8:45 a. m.]

TITLE 32A—NATIONAL DEFENSE, APPENDIX

Chapter I—Office of Defense Mobilization

[Defense Mobilization Order I–16]

DMO I–16—Making the Administrator of the Federal Civil Defense Administration a Member of the Defense Mobilization Board

Pursuant to the authority vested in me by section 102 of Executive Order 10480, dated August 14, 1953, as amended, I hereby designate the Administrator of the Federal Civil Defense Administration a member of the Defense Mobilization Board.

This order is effective March 9, 1955.

Office of Defense Mobilization,
Arthur S. Flemming,
Director.

[F. R. Doc. 55–2124; Filed, Mar. 10, 1955; 11:51 a. m.]

TITLE 21—FOOD AND DRUGS

Chapter I—Food and Drug Administration, Department of Health, Education, and Welfare

[Docket No. FDC–57]

Part 120—Tolerances and Exemptions From Tolerances for Pesticide Chemicals in or on Raw Agricultural Commodities [1]

Tolerances for pesticide residues in or on fresh fruits and vegetables

In the matter of establishing tolerances and exemptions from tolerances for pesticide chemicals in or on raw agricultural commodities:

By vitrue of the authority vested in the Secretary by the provisions of the Federal Food, Drug, and Cosmetic Act (secs. 406, 408, 701, 52 Stat. 1049, 1055; 68 Stat. 511; 21 U. S. C. 346, 348, 371) and upon the basis of the reliable, probative, and substantial evidence received at the hearing held pursuant to the notice published in the Federal Register on September 17, 1949 (14 F. R. 5724), and upon consideration of the exceptions filed to the proposed order issued by the Acting Secretary on October 20, 1954 (19 F. R. 6738), which exceptions are allowed in part and rejected in part, as appears from notations on the exceptions which are on file with the Hearing Clerk, Department of Health, Education, and Welfare, Room 5440, Fourth Street and Independence Avenue SW., Washington, D. C., and as is apparent from the detailed findings made below, the following order is promulgated.

Findings of fact. [2] 1. Growing plants that yield edible fruits and vegetables are subject to attack by insect pests and plant-disease micro-organisms. The resulting injury in either case may vary from slight, with little or no damage to the edible portions of the plant, to the complete destruction of the crop. (R. 43–47, 52–56, 82, 83, 89, 90–92, 97, 142, 144, 145, 291, 362, 376–382, 458–460, 507, 551–571, 580–586, 611, 642, 650, 729, 1266–1271)

2. There are many species of insect pests. Sometimes insects of the same species will attack several kinds of food plants. Some of the factors that affect the size of the insect population are available food supply, climate, and the presence of predators. In the United States the same fruits and vegetables are often grown in different areas under conditions of climate that vary widely, and the potential damage to crops from the same insect pest varies widely in different areas. (R. 32, 34, 36, 37, 59, 60, 61, 62, 83–86, 94, 145–147, 217, 222, 223, 255, 267–271, 291, 333, 346, 362, 422–425, 455, 460–462, 612, 728, 1353, 1442, 1584–1587, 1951–1952, 2182, 2230, 3718)

3. Damage from attacks by insect pests may be reduced in several ways, but the method most widely used in the United States is to apply to the growing plant substances that are poisonous to the attacking insects. Most substances poisonous to insects are also poisonous to warm-blooded animals and man. However, there may exist great differences in this respect, and the different species of insects may vary in their susceptibility to different poisonous substances. The effectiveness of an insecticide against certain types of insects is not the same in different areas. No one poisonous substance is effective against all insect pests. The number of poisonous substances available for use against insect pests is steadily increasing. Research looking toward the synthesis of new insect poisons is being conducted by scientific institutions and government agencies concerned with the problem of pest control and by many companies interested in the sale of pesticides. (R. 27–28, 33, 35, 56, 65, 81, 100–105, 109, 335, 386, 495–497, 621, 670–700, 776, 779, 984, 1092–1093, 1102–1108, 1299, 1466, 1468, 1586–1604, 1608–1638, 1765–1766, 1792–1793, 1846–1847, 1861, 1970–1971, 2176–2180, 2358, 2467, 3785, 4171–4174)

4. Many of the poisonous chemicals used to combat insects and plant diseases tend to injure the plants to which they are applied, and the amounts used must be limited or the damage from the chemical may be greater than from the insect pests or plant diseases they control. Considerable experimental work with new chemicals for combatting insects (insecticides) and plant diseases (fungicides) is necessary before they are ready for commercial distribution. (R. 120, 171, 182–183, 302, 326, 484, 931, 998, 1134, 1136, 1260, 1444, 1716–1717, 3596–3598, 4127, 4882–4883)

5. There are many different types of plant diseases. As in the case of insect pests, the most common method of controlling plant diseases is also by the application of chemicals to the plants attacked. Many substances capable of destroying micro-organisms in man or other animals are of some value in destroying micro-organisms responsible for plant diseases, but most such substances have no practical use for this purpose because they severely injure the plants to which they are applied. The number of substances used to combat plant diseases was rather limited until a few years ago, but the number is now rapidly expanding. For many years compounds of copper, sulfur, and of sulfur and lime were used almost exclusively. In recent years an increasing number of organic chemicals have been used to control plant diseases, and new compounds are being developed by research. (R. 888–894, 896–902, 911–928, 940–959, 1346–1352, 1359–1376, 1448, 2008–2036, 2517–2519, 3289–3294, 3311–3312, 3331, 4011–4015, 4716–4729, 4746–4747, 4804–4808, 4842–4846, 5741–5743, 6322–6324)

6. Some plant diseases are transmitted from one generation of plants to another through seed. In recent years it has become standard practice to treat vegetable seeds with poisonous substances to destroy the spores of micro-organisms capable of causing certain plant diseases. The evidence indicates that such seed treatment causes no measurable uptake of poisonous substances by the plant. For this reason, some very toxic substances such as compounds containing mercury, which should not be applied to growing plants, may be used for treating seed without danger to the consumer of vegetables grown from the treated seed. (R. 894–896, 965, 1066–1068, 1079–1080, 2400, 2660–2661, 2720–2723, 2977–2979, 4071–4072, 4138, 4195, 4320, 4339–4344, 4825–4826, 4860–4864, 5122, 5338–5742, 6313–6314, 6904)

7. The United States Department of Agriculture is constantly engaged in investigating problems connected with pest control. Often these investigations are conducted in cooperation with State agencies. Practically every State operates an agricultural experiment station or other official agency to carry on investigations on subjects of local interest and to furnish advice and suggestions to interested persons. One of the services rendered by most such agencies is the issuance of spray-schedule recommendations, designed to protect fruits and vegetables against the pests most likely to attack them. Growers of fruits and vegetables usually use the substances recommended by their State agencies but do not always follow the recommendations as to the amounts to be applied and the time of application. They may at times use substances not recommended by State agencies. (R. 29, 30, 80, 112, 122–126, 298, 347, 359, 360, 363, 426, 481–495, 507–511, 520, 587–589, 666, 1135, 1640–1641, 2121–2123, 2165, 2314, 2353, 2479, 2962, 3114, 3116–3117, 3152, 3153, 3482, 3910, 4081–4084, 4107, 4213, 4415, 4788–4806, 5138, 5231–5232)

[1] The findings of fact and regulations are based on hearings held in 1950. They do not take into account technical and research advances made since that time.

[2] The citations following each finding of fact refer to the pages of the transcript of the testimony and the exhibits received in evidence at the hearing.

8. Fruit and vegetable growing is subject to many vicissitudes. There may be overproduction at times, with low prices, while at other times high prices fail to bring a profitable return to growers because of low yields. Economic factors, including the cost of the various pesticides available, influence growers in the amounts and kinds of such products they use. Generally speaking, the application of effective insecticides and fungicides is a necessary part of the business of growing fruits and vegetables commercially, and the cost of applying such substances is a recognized and anticipated part of the cost of production. The application of pesticides may be looked upon in one sense as an insurance against crop failure. (R. 42, 43, 69, 70, 82, 455–457, 467–468, 518–520, 562–569, 722, 984, 996, 1019–1024, 1533–1541, 1762–1764, 1769–1771, 2180–2182, 2393–2395, 2602, 2817–2818, 3196, 3245, 3719, 3950, 4031–4032, 4233–4235, 4526–4528, 4551, 4595)

9. In most instances there is a choice of using one of several substances to control a particular insect on a particular crop. These substances may vary in effectiveness, availability, cost, and method of application. A substance may become less effective after continued use, since some insects apparently develop a resistance to its poisonous effects. In a particular situation some poisonous control substances may be necessary, but a particular substance cannot be singled out as the only one necessary for the purpose. In this respect fungicides are in a situation similar to insecticides. For the purpose of section 406 of the Federal Food, Drug, and Cosmetic Act, it is reasonable, in the case of fresh fruits and vegetables, to include in the category of "required" poisonous or deleterious substances those that have been found on the basis of testimony by competent investigators at a hearing held under authority of section 701 of the act to be effective in controlling pests, and to establish such tolerances for residues as are necessary to protect the public health. (R. 56–58, 68, 70, 112, 113, 162, 165, 170, 174–175, 182–183, 185, 189, 194, 196, 282, 426–430, 455, 728, 997–1016, 1346–1352, 1541–1544, 1665–1673, 2241, 2381, 2466, 2686, 3094, 3111–3114, 3126, 3146, 3153, 3783, 3883–3984, 4015–4016, 4063, 4253, 4439–4440, 4525–4526, 4606–4607, 4857–4860, 5144–5146, 6248–6249)

10. Most insecticides and fungicides applied to fruit and vegetable plants leave detectable surface residues on the fruit and vegetables at harvest. The quantity of such residues is affected by a number of factors, including amount and frequency of application, time of application with respect to development and size of the edible portion of the plant, and the length of time between the last application and harvest. A natural decrease in quantity of residue results from various causes, such as volatilization, decomposition, and weathering. Some pesticides volatilize or decompose, or do both, with such rapidity that within a few days after application no detectable residue remains. Others are lost at a slower rate. When fruits and vegetables increase in size after application of the pesticide, there is a decrease in the relative amount of residue in comparison with the weight of the food. The type of vegetable to which the pesticide is applied is also an important factor that affects the amount of residue. In many instances the edible portion of the vegetable is so protected that substances that are applied do not penetrate to the edible portions. Such is the situation in the case of pesticides applied to foliage of root crops, if there is no translocation. In vegetables, such as peas and beans that are sold to consumers in the pods, poisonous residues remaining on the pods must, for practical administrative purposes, be considered as added to the food. This is true even though the pods may, on occasion, be discarded before the food is eaten. In the case of some leafy vegetables, the large surfaces may result in relatively high residues in proportion to the weight of the food, and in others the physical structure of the leaf may cause a greater retention of the residue. In some leafy vegetables, however, outer leaves containing considerable amounts of residue fall off before harvesting. (R. 338, 398–400, 598–599, 700–703, 711–741, 776–788, 833, 836, 845–847, 1073–1074, 1218, 1317, 1403, 2203, 2355, 2523, 2692–2693, 2720, 2752, 3281, 3996, 4129, 4356, 4896, 4945–4948, 4971–4974)

11. With few exceptions, pesticides are not taken up from the soil by the roots or absorbed through the foliage of fruit and vegetable plants and translocated. There was evidence indicating that benzene hexachloride and other chlorinated hydrocarbons applied to the soil may be absorbed and affect the flavor of some vegetables. Direct application of this substance to growing fruit may affect the flavor of the mature fruit. The development of off-flavor from the use of pesticides may render fruits or vegetables adulterated for reasons other than danger to health. Limits on the use of pesticides for such a reason should not be confused with limits imposed for protection of the public health. (R. 652, 1469, 1643–1650, 2962, 2971–2972, 3078–3079, 3636, 3908, 3978, 4188, 4661, 5034, 6516–6522)

12. Usually the application of insecticides and fungicides is made to fruit-producing trees and plants after the fruit has formed and results in contamination of the surface of the fruit with these substances. Certain applications of pesticides sometimes referred to as dormant sprays are made to fruit trees or plants before the fruit has formed. There was no evidence to suggest that applications of pesticides prior to formation of fruit result in the addition of poisonous or deleterious substances to the fruits. (R. 1524, 2246, 2355, 4088, 4109, 4139–4140, 4146, 4367, 4976–4979, 5122–5127, 5885–5886)

13. The possibility of danger to health of consumers from poisonous residues was recognized many years ago. At times, due to high insect population and their resistance to insecticides, it was considered necessary by growers to apply relatively large amounts of insecticides at frequent intervals, resulting in excessive poisonous residues at time of harvest. Some insecticides are of such a high order of toxicity that relatively small amounts remaining as residues are a potential health hazard. The necessity of removing excessive poisonous residues from fruit and vegetables before shipment is well recognized. There has been considerable research by governmental agencies and the interested industries to determine the best means of removing excessive residues. Washing in specially prepared solutions for the purpose of removing residues resulting from the application of lead arsenate and fluorine-containing compounds has been extensively used in past years on apples, pears, and some vegetables. Washing has also been successfully employed to remove excessive poisonous residues from other fruits and vegetables. Wiping and brushing have been found to remove excessive residue from some fruits and vegetables. Stripping the outer leaves or stalks of leafy vegetables often removes substantial portions of the residues. (R. 114–116, 198–209, 231–237, 318, 364–388, 442–447, 463–464, 484, 574, 598–599, 713, 1154–1184, 1470–1486, 1559–1579, 1650–1651, 2476–2478, 2758, 2830, 2832, 3131, 3154, 3292–3293, 3673–3675, 3804, 3838, 3879, 3890, 4024, 4049, 4154–4155, 4260–4263, 4424, 4543, 4561, 4580)

14. The use of pesticides in excess of the minimum amounts needed to give effective control is unnecessary, may injure the plant, and results in economic waste. The use of excessive amounts of pesticides may leave unnecessarily high residues and result in consumers ingesting poisonous substances in quantities that may be harmful. From a known spray schedule persons trained in the use of insecticides and fungicides can estimate with a fair degree of accuracy the maximum amount of substances, applied according to the schedule, that will remain as residues at harvest. Qualified and experienced persons can formulate spray schedules utilizing different poisonous substances so that such schedules, if followed, will give effective protection against anticipated pests while the amount of residues remaining at harvest can be expected to fall below predetermined amounts. The recommendations of State entomologists and plant pathologists are made on the basis of experience, usually covering a period of more than a single year. Occasionally, however, pests attack crops unexpectedly and existing recommendations are inadequate for control. In such cases emergency measures may be suggested. For example, attacks by grasshoppers may occur unexpectedly and necessitate the use of pesticides not normally recommended. (R. 347–350, 395, 470–474, 1007–1016, 1035–1065, 1136–1137, 1261, 1435–1436, 1439, 1452, 1525–1526, 2480, 2859, 3116–3117, 3258–3259, 3524–3525, 3628–3629, 3865–3866, 3910–3911, 3914–3915, 3920, 3975–3976, 4064–4066, 4271–4273, 4416–4419, 4500, 4506, 4511, 4572, 4784)

15. A number of organic chemicals have been found to possess the property of killing different species of plants selectively. Some of these chemicals are also sometimes applied directly to fruit

trees at blossomtime to control fruit set and at harvesttime to control fruit drop. These chemicals have been widely used in recent years for destroying weeds in various crops, including berries, peas, corn, etc., and to defoliate certain plants. These practices are growing. When applied directly there may be an addition of the chemical to the fruit, and a tolerance should be provided. The proper use of these chemicals does not in most cases result in residues in or on fruits or vegetables. However, there may be some unintentional contamination even when good agricultural practice is followed. Protection of the public health from the addition of such poisonous substances to fruits and vegetables when it cannot be avoided by sound agricultural practice requires the adoption of tolerances for certain herbicides. (R. 886–888, 3755, 3810, 5933–5944, 5951–5952, 6168–6170, 6197–6199, 6729–6731)

16. There are a number of chemicals used for liberating poisonous gases in the soil. They are commonly referred to as soil fumigants and are used primarily to control microscopic worm-like animals, known as nematodes, and to some extent other organisms in the soil that interfere with the growth of plants. The principal soil fumigants are carbon bisulfide, carbon tetrachloride, chloropicrin, ethylene dibromide, methyl bromide, dichloropropane, and dichloropropene. Such substances are commonly applied to soil before plants are set out, since contact between chemical and plants may result in injury to the plant. There is no evidence of any uptake of any of these named substances into the edible portions of fruits and vegetables. Research is under way on possible uptake of certain less volatile chlorinated hydrocarbons. (R. 321, 703–704, 1684–1687, 2087, 2351–2352, 2354, 2685, 2724–2729, 3294–3295, 3314–3316, 4072, 4122, 4148, 4330–4335, 4397–4398, 4610–4612, 4616, 4658–4660, 5619–5621, 5624, 6012–6032, 6075–6076, 6143–6159, 6540–6544, 6903; Ex. 717, 718, 978)

17. Certain organic chemicals (in addition to those referred to in finding 15) similar in composition to some of the plant hormones are applied to fruit trees or plants at blossomtime to improve the set of fruit. Some are used to reduce the amount of set to such an extent that the trees will be able to produce mostly large fruit. Other chemicals are applied to aid in the set of certain fruits, such as tomatoes, in cool weather. Application of such chemicals at blossomtime has not been shown to cause any contamination of the fruit at harvest. Among the chemicals used for these purposes are some of the dinitrophenols, which are quite toxic. The practices described in this finding can be regulated so that no poisonous or deleterious substance is added to fruit. The evidence does not indicate that tolerances are now needed. (R. 4612–4613, 5944–5945, 5955, 5958–5970, 5981–6009)

18. Some of the substances needed by plants for normal growth, and which are commonly obtained through their root systems, may at times be unavailable in the soil. In some instances, the needed substance can be supplied by spraying it on the foliage of the plant. It has become accepted practice to observe the growth of citrus trees (and to a lesser extent other plants), and where there is indication of a lack of certain elements to spray the trees with a dilute solution or suspension of compounds containing the needed substances. Compounds of manganese, zinc, boron, and iron are commonly applied in this manner. Although these substances may be added to the fertilizers used, the results obtained by adding them to the soil are often delayed and less effective. When applied to the foliage according to good agricultural practice the amounts of the substances added to fruit are small. The substances used are of low toxicity, and there is no likelihood of consumer injury if good agricultural practice is followed. (R. 1065, 3359, 3436–3437, 3477–3478, 3487, 3500, 3517–3518, 3526–3538, 3550–3551, 3754–3755, 3810–3812, 4631–4632, 5851–5866)

19. Lead arsenate is sometimes applied to citrus trees, particularly to grapefruit, to retard the development of acid in the fruit. Small amounts may be absorbed, and traces of lead have been detected in the interior portions of grapefruit from trees sprayed with lead arsenate. In States where citrus fruit is grown there are often laws limiting the addition of lead arsenate. Where permitted by State laws, the application of lead arsenate to citrus trees can be considered as required. A tolerance should be established to prevent danger from excessive use. (R. 3408–3417, 3428, 3450, 3454–3475, 3484, 3501, 3539–3546, 3555–3556, 3758–3759)

20. Witnesses familiar with agricultural practices in all parts of the United States testified on the basis of their experience as to the use of insecticides, fungicides, and other pesticides on fruits and vegetables. Some data as to the quantities of residues that might be expected at harvest were available for many such substances. A condensed summation of the testimony as to the use of pesticides has been prepared to show those pesticides recommended by qualified persons or institutions for each fruit and vegetable mentioned in the testimony. Where available, the residue likely to be found before cleaning, if recommendations are followed, is also shown. Where fruits or vegetables are commonly washed, polished, or otherwise cleaned, the probable reduced quantity of residue is also shown.

FRUITS

APPLES

Name of pesticide	Reference to method of application	Range in quantity of residues
Benzene hexachloride (Ex. 689, 834)	Ex. 689, 834	
bis (2-Hydroxy-5-chlorophenyl-sulfide) (Ex. 430, 787; R. 2011).	Ex. 430, 787	
Cadmium compounds—inorganic (Ex. 430).	Ex. 430	None.
Cadmium—organic (Ex. 430; R. 4979)	Ex. 430	
Calcium cyanamide (Ex. 787)	Ex. 787	None.
Calcium cyanide (Ex. 351)	Ex. 351	None.
Carbon disulfide (Ex. 351)	Ex. 351	None.
Chlordane (Ex. 769, 834, 1041)	Ex. 769, 834, 1041	0.575 p. p. m. (Ex. 388).
Chloroethyl butylphenoxy-methylethyl sulfite (Ex. 301, 762; R. 1814).	Ex. 301	0.2–3.7 p. p. m. (Ex. 1225).
Copper compounds—inorganic (Ex. 769, 834).	Ex. 769, 834	Approximately 20 p. p. m. (R. 913–914).
Copper-8-quinolinolate (Ex. 787)	Ex. 787	
DDT (Ex. 834)	Ex. 834	Less than 7 p. p. m. in most cases (R. 125; Ex. 23, 34, 42, 54, 55, 56, 58, 60, 61, 161, 184A, 184B, 184F, 184G, 184K, 254, 258, 285, 297, 334, 344, 386, 388, 389, 504I, 642, 729, 732, 749, 750). Some residues run as high as 18.4 p. p. m. (Ex. 184B).
Dichlorodiphenyl ethane (Ex. 787)	Ex. 787	
2,3 Dichloro-1,4-naphthoquinone (Ex. 430, 745).	Ex. 430	None (Ex. 1257).
Dinitro compounds (Ex. 153, 721, 769, 834)	Ex. 721, 769, 834	0.1–1.0 p. p. m. (Ex. 974).
di(Parachlorophenyl) methylcarbinol (Ex. 294, 834).	Ex. 294, 834	
Ethyl paranitrophenylthiobenzenephosphonate (Ex. 762, 834).	Ex. 834	Trace; 0.30 p. p. m. (Ex. 1008C).
Ferbam (Ex. 504, 834, 1041)	Ex. 504, 1041	0.03–2.55 p. p. m. (Ex. 1009E).
Fluorine compounds—inorganic (Ex. 153, 689, 834).	Ex. 689, 834	Less than 7 p. p. m. in most cases, after fruit is washed (R. 8817–8820; Ex. 182A, 183A, 184B, 258, 344, 642). Some residues on washed fruit run as high as 31.4 p. p. m. (Ex. 182B). Unwashed residues range from 8.5 p. p. m. (Ex. 34) to 123 p. p. m. (Ex. 182B).
Glyoxalidines (Ex. 22A, 156, 168, 430, 745)	Ex. 430	0–4 p. p. p. m. (Ex. 1276).
Laurylpyridinium bromide (Ex. 787)	Ex. 787	
Laurylquinolinium bromide (Ex. 787)	Ex. 787	
Lead arsenate (Ex. 330, 509, 689, 834)	Ex. 330, 509, 689, 834	Lead: Less than 7 p. p. m. after fruit is washed, in most cases. (Ex. 56, 59, 183A, 183B, 254, 258). Some residues on washed fruit run as high as 14.1 p. p. m. (Ex. 59). On unwashed fruit residues range from 0.2 p. p. m. (Ex. 23) to 68.6 p. p. m. (Ex. 183A). Arsenic: Less than 3.5 p. p. m. after fruit is washed (Ex. 254, 258, 749, 750). Residues on washed fruit run as high as 7.7 p. p. m. (Ex. 749). Residues on unwashed fruit range from 0.1 p. p. m. (Ex. 23) to 54.6 p. p. m. (Ex. 749).
Lime (Ex. 234, 834)	Ex. 834	
Manganese compounds—inorganic (Ex. 301, 834).	Ex. 301, 834	
Mercury compounds—inorganic (Ex. 787)	Ex. 787	None.

FRUITS—Continued

APPLES—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Mercury compounds—organic (Ex. 504, 745, 769, 834, 1041).	May be applied as late as second cover spray. (Ex. 504, 745, 769, 834 (N.H.), 1041).	Residues from typical schedule range from 0.00 to 0.22 p. p. m. (Ex. 436). Other residues: 0.025–0.357 p. p. m. (Ex. 1039); 0.0004–0.0295 p. p. m. (Ex. 1040); 0–0.028 p. p. m. (Ex. 830). 1 percent nitric acid wash removes all mercury residue (Ex. 830).
Methoxychlor (Ex. 762, 834)	Ex. 762, 834	1.2–5.5 p. p. m. (Ex. 285, 297, 749, 1006C).
Nabam (Ex. 787)	Ex. 787	
Nicotine compounds (Ex. 301, 504, 834, 846).	Ex. 301, 834, 846	Less than 5 p. p. m. in most cases, on unwashed fruit (Ex. 34, 54, 57, 424, 998). Some residues on unwashed fruit run as high as 12.5 p. p. m. (Ex. 54). Washing reduces residue to 0.9–1.4 p. p. m. from 3.7 p. p. m. (Ex. 57).
Oil (Ex. 509, 733, 834)	Ex. 509, 834	80 p. p. m. (Ex. 1049).
Parathion (Ex. 153, 721, 834)	Recommended as late as Aug. 4; Ex. 301, 721, 834.	Most residues at harvest below 0.1 p. p. m. (Ex. 54, 55, 161, 185A, 185B, 266, 285, 297, 344, 389, 504, 642, 732). Residues at harvest range from 0.00 to 1.09 p. p. m. (Ex. 732). Residues approximately 2 weeks after application range from 0.09 p. p. m. (Ex. 871) to 0.8 p. p. m. (Ex. 854–Table 17, Ex. 344, 1245).
Phenothiazine (Ex. 301)	Ex. 301	0.02–0.08 p. p. m. on fruit at harvest (Ex. 34).
Polyethylene polysulfide (Ex. 787)	Ex. 787	
Pyrethrum (Ex. 351, 834 (Idaho))	Ex. 834 (Idaho)	
Rotenone (Ex. 834 (Washington), 301)	Ex. 834 (Washington)	
Sulfur (Ex. 153, 234, 834)	Ex. 153, 234, 834	
TDE (Ex. 153, 301, 834)	Ex. 153, 301, 834	1.2–6.1 p. p. m. (Ex. 161, 297, 504I, 749).
TEPP (Ex. 153, 834, 846)	Ex. 153, 834, 846	
Thiram (Ex. 156, 787)	Ex. 156, 787	
Toxaphene (Ex. 762; R. 183, 197)	Ex. 762; R. 183, 197	0.7–1.4 p. p. m. (Ex. 881).
N-Trichloromethylthiotetrahydrophthalimide—SR 406. (Ex. 430; R. 2885).	Ex. 430	1.1 p. p. m. (Ex. 1030D).
2, 4–D (Ex. 168 (34))	Ex. 168 (34)	
Urea (Ex. 430)	Ex. 430	
Zinc compounds—inorganic (Ex. 834, 1041C).	Ex. 834, 1041C	
Zineb (Ex. 787, 834)	Ex. 787	
Ziram (Ex. 163, 787)	Ex. 787	

APRICOTS

Benzene hexachloride (Ex. 762, 769, 834)	Ext. 834	
Calcium arsenate (Ex. 153)	Ex. 153	
Chlordane (Ex. 762, 769)	Ex. 769	
Chloroethyl butylphenoxymethylethyl sulfite—Aramite (Ex. 762).		
Copper compounds—inorganic	Ex. 153	
DDD—TDE—Rhothane (Ex. 153, 762, 769).	Ex. 153	5.4 p. p. m. or less (Ex. 161, 285, 297, 1248).
DDT (Ex. 153, 834)	Ex. 153, 154	Generally less than 4 p. p. m. (Ex. 161, 285, 1248 (5.4 p. p. m.)); 6.3 p. p. m. (Ex. 297).
2,3 Dichloro-1,4 naphthoquinone—Phygon (Ex. 168 (16A), 234).	Ex. 234	
Dinitro compounds—DN-111 (Ex. 762, 769).	Ex. 769	
Ethyl paranitrophenylthiobenzenephosphonate—EPN (Ex. 762).		
Ferric dimethyldithio-carbamate—Ferbam (Ex. 163, 234).	Up to 3 days before harvest (Ex. 234)	
Fluorine compounds—inorganic—Cryolite (Ex. 178).	Just after blossoming (R. 360).	
Lead arsenate (Ex. 153, 178, 834)	Ex. 834	5.4 p. p. m. (Ex. 285).
Lime (Ex. 178, 769, 834)	Ex. 769	
Manganese salts (Ex. 5)	Used in soil or injected in tree to supply deficient manganese (Ex. 5).	
Methoxychlor (Ex. 153, 762)	Ex. 153	Under 10 p. p. m. except where determined before harvest (Ex. 297, 1006C, 1248).
Nicotine (Ex. 178, 834)	Used against aphids and recommended during blossom time.	

FRUITS—Continued

APRICOTS—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Oil (Ex. 153, 178, 769, 834)	Ex. 153	
Paradichlorobenzene (Ex. 286, 834)	Ex. 286, 834	
Parathion (Ex. 153, 178, 834)	Ex. 153	0.2 p. p. m. 45–60 days after application (Ex. 161). 0.02–0.4 p. p. m. (Ex. 285). 0.02–0.13 p. p. m. 81–23 days after application (Ex. 297). 0.12–0.28 p. p. m. 14–8 days after application (Ex. 871). Less than 0.18 p. p. m. 33 days after application (Ex. 1248).
Pyrethrum (Ex. 161, 834)	Ex. 161	
Rotenone (Ex. 16)	Ex. 16	
Sulfur (Ex. 178, 834)	Warning against use (Ex. 296, 834).	
Tetraethylpyrophosphate—TEPP (Ex. 296).	Ex. 296	
Toxaphene—chlorinated camphene (Ex. 762, 834).	Ex. 834	
Zinc compounds (sulfate)—inorganic (Ex. 296, 769).	Ex. 769	
Zinc dimethyldithiocarbamate—Ziram (Ex. 168–234, 296, 769).	Ex. 168 (32A)	
Zineb (Ex. 286)		

AVOCADOS

Benzene hexachloride (Ex. 533; R. 3261)	Ex. 533	
Copper—inorganic (Ex. 533)	Ex. 533	
Copper-8-quinolinolate (Ex. 642)	Ex. 642	
Copper-zinc-chromate complex (Ex. 642)	Ex. 642	
DDT (Ex. 161)	Ex. 161	1.7–2.6 p. p. m. on surface (Ex. 161, 642). 1.2–1.4 p. p. m. subsurface (Ex. 161, 642).
Lead arsenate (Ex. 161, 533)	Ex. 161	
Nicotine sulfate (R. 3262)	Ex. 3262	
Oil (Ex. 533)		
Parathion (R. 3262)	(R. 3262)	
Pyrethrum (Ex. 161, 533)	Ex. 161	
Sulfur (Ex. 161, 533, 902 (p. 1))	Ex. 161	

BLUEBERRIES

Arsenicals—calcium or lead (R. 3018; Ex. 162).	Ex. 162	As_2O_3, 5.72–0.57 p. p. m. (Ex. 162).
Chlordane (R. 3024–3025, 3031)	R. 3024–3025, 3031	
Copper compounds—inorganic (Ex. 163, 787).	To control botryitis twig blight (Ex. 162).	Copper 3.12–7.22 p. p. m. (Ex. 162).
DDT (Ex. 690)	Ex. 690	0.33–0.86 p. p. m.; sampled 40 days after dusting (Ex. 729).
Ferric dimethyldithiocarbamate—Ferbam (Ex. 787 (p. 53)).		
Fluorine compounds—inorganic (Ex. 690)	Ex. 690	
Lime-sulfur (Ex. 787 (p. 53))		
Methoxychlor (R. 3019–3023; Ex. 691)		
Parathion (Ex. 514, 1265A)		
TDE (Ex. 514)		
Zinc dimethyldithiocarbamate ziram (Ex. 787 (p. 53)).		

CHERRIES (SWEET AND SOUR)

Benzene hexachloride—BHC (Ex. 834)	Ex. 834	
Calcium arsenate (Ex. 164)	Ex. 164	0.14–1.70 p. p. m. (Ex. 399).
Chlordane (R. 2081–2082)	R. 2081	
Copper compounds (Ex. 153, 834)	Ex. 323	
Copper-8-quinolinolate—Bioquin (Ex. 787).	Ex. 787	
DDT (Ex. 161, 289, 323, 834)	Ex. 834	0.4–1.9 p. p. m. (Ex. 334). 0.64–1.60 p. p. m. (Ex. 1841).
2.3 Dichloro 1,4 naphthoquinone—Phygon (Ex. 787, 834).	Ex. 787, 834	
1,1 Dichloro 2,2 bis (parachlorophenyl) ethane—DDD—TDE—Rhothane (Ex. 153, 762).		

FRUITS—Continued

CHERRIES (SWEET AND SOUR)—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Dinitro compounds (Ex. 153, 155, 769, 834)	Ex. 834	
Ferric dimethyldithiocarbamate—Ferbam (Ex. 156, 834).	Ex. 834	3.6 p. p. m. (Ex. 1009E).
Glyoxalidines (Ex. 156, 323, 834)	Ex. 834	0.5 p. p. m. (Ex. 1261).
Laurylquinolinium bromide (Ex. 787)		
Lead arsenate (Ex. 509, 769, 834)	Ex. 834	Lead: 1–22.4 p. p. m. (Ex. 397). As_2O_3: 0.43–12.1 p. p. m. (washing removed practically all residue) (Ex. 397). Lead: 0.4–21.3 p. p. m. (Ex. 399). As_2O_3: 0.1–12.1 p. p. m. (Ex. 399). Lead: 10% dust analyzed 30 days after treatment 0.27–5.54 p. p. m. 3 lb./100 gal. 17 days after treatment 19.12–27.93 p. p. m. Same 30 days after treatment 15.43–21.08 p. p. m.
Lime (Ex. 156, 769, 834)	Ex. 834	
Mercury compounds—organic (Ex. 234, 787).	Ex. 787	
Methoxychlor (Ex. 17, 155, 834)	Ex. 834	7.71 p. p. m. (Ex. 188). 0.58–8.1 p. p. m. (Ex. 1006C). 2.6–23.0 p. p. m. (Ex. 1245).
Nabam—disodium ethylene bisdithiocarbamate (Ex. 787, 834).	Ex. 787, 834	
Nicotine (Ex. 178, 235, 286, 834)	Ex. 834	
Oil (Ex. 153, 178, 235, 834)	Ex. 834	
Paradichlorobenzene (Ex. 834)	Ex. 834	
Parathion (Ex. 153, 155, 355, 834)	Ex. 153	At least 14 days after spray maximum residue 0.81 p. p. m. with 7 of 15 samples below 0.5 p. p. m. (Ex. 185H). 0.2–0.5 p. p. m. (Ex. 334). 0.35 p. p. m. 7 days after application. 0.06 p. p. m. 16 days after application. 0.10 p. p. m. 33 days after application. 0.03 p. p. m. 36 days after application (Ex. 871).
Pyrethrum (Ex. 286, 834)	Ex. 286	
Rotenone (Ex. 178, 286, 834)	Ex. 286	
Sulfur (Ex. 155, 178, 235)	Ex. 286	
Tetraethyl pyrophosphate—TEPP (Ex. 155, 164, 286, 834).	Ex. 834	
Tetramethylthiuram disulfide—Thiram or TNTD (Ex. 430).	Ex. 430	
Zinc ethylene bisdithiocarbamate—Zineb (Ex. 787).	Ex. 787	
Zinc dimethyldithiocarbamate—Ziram (Ex. 234, 787).	Ex. 234, 787	

CITRUS FRUITS

Antimony compounds (inorganic)—tartar emetic (Ex. 642).	Ex. 642	Maximum 3 p. p. m. residue effectively removed by normal packing-house washing operation (Ex. 642).
Benzene hexachloride (gamma isomer)—Lindane (R. 3632).		
bis (Parachlorophenoxy) methane—Neotran (Ex. 161).	Ex. 161	Maximum 1.5 p. p. m. (Ex. 642). 0.2–14.0 p. p. m. 14 days after application (Ex. 973). Reduced from 8.1–1.6 p. p. m. by commercial washing. (Ex. 973).
Chlordane (Ex. 598)	Ex. 598	
Chloroethyl butylphenoxymethylethyl sulfite—88R—Aramite (Ex. 161).	Ex. 161	
Copper compounds—inorganic (Ex. 533, 642).	Ex. 533, 642	0.39–0.94 p. p. m. (Ex. 604). 1.10–1.60 p. p. m. (Ex. 636).
DDT (Ex. 642)	Ex. 642	10.0–25.0 p. p. m. in peel (Ex. 161). 1.7–2.6 p. p. m. surface and 1.2–1.4 p. p. m. subsurface (Ex. 161). 0.7–28.7 p. p. m. in peel (Ex. 642). Surface residues generally less than 10 p. p. m. and as much as 90 percent removed in normal packing-house soap wash. No DDT found in pulp portion of fruit (Ex. 642).
1,1 Dichloro 2,2-bis (parachlorophenyl) ethane—DDD—TDE—Rhothane (Ex. 642).	Ex. 642	
2,4 Dichlorophenoxyacetic acid—2,4-D (Ex. 642).	Ex. 642	

FRUITS—Continued

CITRUS FRUITS—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Dinitro compounds (Ex. 533, 642, 692)	Ex. 642	Less than 1.0 p. p. m. (Ex. 642). 0.005–0.19 p. p. m. unwashed (Ex. 636). 0.028 p. p. m., washed (Ex. 637). 0.57–3.46 p. p. m., unwashed; 0.057–0.21, washed (Ex. 975). 0.05–0.27 p. p. m. surface; 0.15–0.71 p. p. m. peel; 0–0.05 p. p. m. pulp (Ex. 976).
Fluorine compound—Cryolite (Ex. 642)	Ex. 642	1.5 p. p. m., 75 percent removed in normal packing-house wash (Ex. 642).
Hydrocyanic acid (Ex. 642)	Ex. 642	None.
Lime (Ex. 533)	Ex. 533	
Manganese salts (Ex. 642)	Ex. 642	
Neotran—K–1875—bis (parachlorophenoxy) methane (Ex. 642).	Ex. 642	Less than 1.5 p. p. m. (Ex. 642). 0.2–14.0 p. p. m. 14 days after application (Ex. 973). Wash reduced residue from 8.1–1.6 p. p. m. (Ex. 973).
Nicotine	Ex. 642	Initial deposit of 1.18, 1.28, and 2.04 p. p. m. reduced to 0.18, 0.27, and 0.32 p. p. m., respectively in 16 days (Ex. 642).
Oil (Ex. 533, 642, 834)	Ex. 642, 1049	Maximum 70–120 p. p. m. after 3 weeks (Ex. 1049).
Parachlorophenyl parachlorobenzylsulfonate—K–6451 (Ex. 161).	Ex. 161	1 lb. to 100 gal. 1.5–3.8 p. p. m. 10 days after application. 10 lb. to 100 gal. 2.3–2.4 p. p. m. 10 days after application. 2 lb. to 100 gal. (initial) 11.2 p. p. m.; same after wash averaged 3.1 p. p. m.
Parachlorophenylphenyl sulfone—R–242 (Ex. 642).	Ex. 642	
Parathion (Ex. 642)	Ex. 642	Less than 0.1 p. p. m. in pulp and juice (Ex. 642). Less than 4.2 p. p. m. in peel 30 days after application (Ex. 161). Less than 5 p. p. m. in peel 10 days after application (Ex. 633). Less than 1.0 p. p. m. 10 days after application and 0.63 p. p. m. 30 days after application on basis of whole fruit (Ex. 633).
Pyrethrum (Ex. 642)	Ex. 642	None (Ex. 642).
Rotenone (Ex. 642)	Ex. 642	
Sabadilla (Ex. 642)	Ex. 642	
Selocide (Ex. 7)		None (Ex. 1055).
Sulfur (Ex. 533, 642, 834)	Ex. 642	
Tetraethyl pyrophosphate—TEPP (Ex. 642).	Ex. 642	
Toxaphene—chlorinated camphene (Ex. 533, 598).	Ex. 533	
Zinc salts (Ex. 533, 642)	Ex. 642	0.56–2.47 p. p. m. (Ex. 604). 1.310–2.021 p. p. m., unwashed (Ex. 637). None to 0.663 p. p. m. washed (Ex. 637).
Zineb (Ex. 642)		

CRANBERRIES

Copper compounds—inorganic (Ex. 15, 18, 234).	Ex. 15	
Cyanides—inorganic (Ex. 15)	Ex. 15	
DDT (Ex. 15, 18)	Ex. 15, 18	0.2–3.9 p. p. m. (Ex. 261). Less than 2 p. p. m. 40 days after application, 6 lb. per acre, when sprayed July 20. Same concentration under drought conditions gave 4.4 p. p. m. residue 60–80 days after application (Ex. 10).
Ferbam—ferric dimethyldithiocarbamate (Ex. 15, 163).	Ex. 163	
Fluorine compounds—inorganic (Ex. 15)	Ex. 10, 15	48, 4, 8, 9, 7, 12 p. p. m. and two negligible (Ex. 10). 0.12–0.33 p. p. m. (5 samples) (Ex. 10). 0.1–0.5 p. p. m. (Ex. 261).
Lead arsenate (Ex. 15)	Ex. 15	0.6 p. p. m. lead (Ex. 261).
Lime sulfur (Ex. 15)	Ex. 15	
Methoxychlor (Ex. 18)	Ex. 18	None (Ex. 168 (p. 28b)).
Nicotine (Ex. 15)	For spittle insect, June 10–15 (Ex. 15).	

FRUITS—Continued

CRANBERRIES—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Oil (Ex. 15, 18)	Ex. 15; R. 2766	
Paradichlorobenzene (Ex. 15)	Ex. 15	
Parathion (Ex. 514)		
Pyrethrum (Ex. 10, 15)		
Rotenone (Ex. 15)	R. 2751	
Sodium arsenate (Ex. 18)	As a herbicide (Ex. 18)	
Zineb—zinc ethylene bisdithiocarbamate (Ex. 163, 787).	R. 3053	
Ziram—zinc dimethyldithiocarbamate (Ex. 163, 234).	R. 3053	

CURRANTS

Copper compounds—inorganic (Ex. 232, 725, 834).	Ex. 725	
DDT (Ex. 161, 834)		
Dinitro compounds (Ex. 155, 725, 834)	Ex. 155	
Ferric dimethyldithiocarbamate—Ferbam—Fermate (Ex. 156, 834).		
Lead arsenate (Ex. 199, 232, 725, 769)	Ex. 199	Pb on unwashed fruit 2.9–19.1 p. p. m.; Pb on washed fruit 0.3–4.3 p. p. m. As on unwashed fruit 1.1–8.6 p. p. m.; As on washed fruit 0.1–1.6 p. p. m.
Lime (Ex. 155, 232, 725, 769, 834)	Ex. 155	
Nicotine (Ex. 153, 232, 769, 834)	Ex. 232	
Oil (Ex. 155, 725, 769)		
Parathion (Ex. 834)	Ex. 871	0.09–0.42 p. p. m. 40–49 days after application (Ex. 871). 0.03–0.44 p. p. m. 30–37 days after application (Ex. 406).
Pyrethrum (Ex. 725, 834)	Ex. 725	
Rotenone (Ex. 155, 725, 769, 834)	Ex. 725	
Sulfur (Ex. 232, 725, 834)	Ex. 232	
Tetraethyl pyrophosphate—TEPP (Ex. 834).	R. 2320	
Zineb (Ex. 787)		

DATES

Copper compounds—inorganic (Ex. 787 (table 28)).		
Ferric dimethyldithiocarbamate—Ferbam (Ex. 787).	Ex. 642	5–16 p. p. m, 65 percent removable in wash (Ex. 642 (p. 8)).
Parathion (Ex. 642; R. 3815)	Ex. 642	0.2–0.04 p. p. m. 60 days after application (Ex. 642 (p. 8)).
Sulfur (Ex. 692, 787)	Ex. 642	75–180 p. p. m., 95 percent removable in wash (Ex. 642 (p. 8)).

FIGS

Copper compounds—inorganic (Ex. 787)	R. 911	
Oil (Ex. 288)	Ex. 288	
Parathion (Ex. 288)	Ex. 297	0.02 p. p. m. 27 days after application; 0.06 p. p. m. 7 days after application (Ex. 297).
Tetraethyl pyrophosphate—TEPP (Ex. 288).	Ex. 288	

GOOSEBERRIES

Copper compounds—inorganic (Ex. 155, 232, 725, 834).	Ex. 232, 834	
DDT (Ex. 161, 834)		
Dinitro compounds (Ex. 155, 725, 834)	Ex. 155, 725, 834	
Ferbam (Ex. 156, 834)		
Lead arsenate (Ex. 199, 725, 769, 834)	Ex. 769	
Lime (Ex. 155, 232, 769, 834)	Ex. 769	
Nicotine (Ex. 155, 232, 769, 834)	Ex. 834	
Oil (Ex. 155, 725, 769, 834)		
Phenyl mercury compounds (Ex. 156 (Connecticut)).		

FRUITS—Continued

GOOSEBERRIES—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Parathion (Ex. 358)	Ex. 358	
Pyrethrum (Ex. 725, 834)	Ex. 834	
Rotenone (Ex. 155, 725, 769, 834)	Ex. 834	
Sulfur (Ex. 156, 232, 725, 834)	Ex. 834	
Tetraethyl pyrophosphate—TEPP (Ex. 834).	R. 1628	
Thiram (Ex. 156)		
Zineb (Ex. 787 (table 20))		

GRAPES

Benzene hexachloride (Ex. 288)	Ex. 288	
bis (Parachlorophenoxy) methane—K-1875—Neotran (Ex. 286).	Ex. 286	
Calcium cyanide (Ex. 161, 288)	Ex. 288	
Chlordane (Ex. 286)	Ex. 286	
Chloropicrin (Ex. 787)	Ex. 787	
Copper compounds—inorganic (Ex. 155, 318, 689, 834).	Ex. 155	
Copper-8-quinolinolate—Bioquin (Ex. 787).		
DDT (Ex. 286, 834)	Ex. 834	6.8–0.9 p. p. m. 11 to 106 days after application (Ex. 161). 8.3 to 0.4 p. p. m. (Ex. 260). 9.7 to 0.9 p. p. m. 20 to 108 days after application (Ex. 285). 0.7 p. p. m. 59 days after application (Ex. 297). 13.88–4.37 p. p. m. 43–87 days after application (Ex. 320). Pomace from grapes having 4 sprays range 113.0–161.0 p. p. m.; no residue in juice (Ex. 320). Under 7 p. p. m. if only two sprays used on grapes, Erie County, Pa. (Ex. 321). 8 p. p. m. from 4 sprays. no oil (Ex. 322). 20 p. p. m. from 4 sprays; oil used (Ex. 322). Average 11.2 p. p. m. 50 days after application, 4 applications (Ex. 404). Average 7.7 p. p. m. 50 days after application, 3 applications (Ex. 404). Average 3.1 p. p. m. 80-plus days after application, 2 applications (Ex. 404). Ex. 405 shows substantially the same as Ex. 404. 1.6–0.4 p. p. m. from 1 to 20 days after application of 5 percent dust 30 lb. per acre (Ex. 642). 7.12–1.19 p. p. m. 22–40 days after application, 2 to 4 sprays (Ex. 729).
2,3 Dichloro 1,4 naphthoquinone—Phygon (Ex. 787).		
Dinitro compounds (Ex. 787)		
di(Parachlorophenyl) methylcarbinol—Dimite—DMC (Ex. 286).	Ex. 286	
Ferric dimethyldithiocarbamate—Ferbam (Ex. 155, 318, 509, 834).	Ex. 155	
Fluorine compounds—inorganic (Ex. 288)	Ex. 288	Trace, 2.2 p. p. m. (Ex. 260).
Formaldehyde (Ex. 787)		
Lead arsenate (Ex. 155, 288, 340, 509, 721, 834).	Ex. 155	0.4–23.2 p. p. m. lead (Ex. 69). 0.4–10.8 p. p. m. As_2O_3 (Ex. 69). 0.6–11.8 p. p. m. lead (Ex. 260). 0.1–4.0 p. p. m. As_2O_3 (Ex. 260). 4.34–14.0 p. p. m. lead (Ex. 321).
Lime (Ex. 155, 296, 318, 834)		
Mercury compounds—organic (Ex. 787)	Ex. 1042	0.053 p. p. m. whole grapes without stems following 3 sprays (Ex. 1042).
Methoxychlor (Ex. 357, 762)	Ex. 357	
Methyl bromide (Ex. 787)		
Nabam—Dithane—D-14—disodium ethylene bisdithiocarbamate (Ex. 787).	Ex. 787	
Nicotine (Ex. 509, 834)	Ex. 834	0.4–2.2 p. p. m. (Ex. 69).
Oil (Ex. 315, 721, 834)		

FRUITS—Continued

GRAPES—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Parathion (Ex. 286, 357, 318)	Ex. 357	0.02 p. p. m. 57 days after application; 0.50 p. p. m. 14 days after application (Ex. 69). 0.1–0.3 p. p. m. 30 days after application (Ex. 285). 0.34 p. p. m. 38 days after application (Ex. 297). 0–0.75 p. p. m. 22 days after application (Ex. 404). 0.005 p. p. m. 20 days after application (Ex. 642). 0.17 p. p. m. 15 days after application, 2 applications (Ex. 871). 0.9 p. p. m. 42 days after application, 4 applications (Ex. 871).
Rotenone (Ex. 834)		
Sodium arsenate (Ex. 288)		
Sulfur (Ex. 156, 286)	Ex. 288	
Tartar emetic (Ex. 263)	Ex. 263	
TDE-DDD-Rhothane—1,1 dichloro 2 2 bis (parachlorophenyl) ethane (Ex. 357).	Ex. 357	
TEPP (Ex. 286)		
Tetramethylthiuram disulfide—Thiram (Ex. 156).		
Zinc compounds—inorganic (Ex. 286)	Ex. 286	
Zinc ethylene bisdithiocarbamate—Zineb (Ex. 533, 787).		

GUAVAS

Benzene hexachloride (R. 3263)		
DDT (R. 3263)		
Ferbam (Ex. 787)		
Parathion (R. 3263)		
Rotenone (R. 3263)		
TEPP (R. 3263)		
Zineb (Ex. 787)		

MANGOES

Benzene hexachloride—BHC (Ex. 533)		
Copper compounds—inorganic (Ex. 533)		
Copper-8-quinolinolate (Ex. 787)		
DDT (Ex. 533)		
Ferbam (R. 3356)		
Lead arsenate (R. 3264)		
Oil (Ex. 554)		
Parathion (Ex. 533)		
Sulfur (Ex. 533)		

PAPAYAS

Copper compounds—inorganic (Ex. 787)		
Chlordane (Ex. 533; R. 3265)	Ex. 533.	
DDT (Ex. 533; R. 3265)	Ex. 533.	
Ferbam (Ex. 787)		
Sulfur (Ex. 533; R. 3265)	R. 3265.	

PEACHES

Benzene hexachloride (Ex. 340, 509, 533, 834).	Ex. 340	0.1–0.5 p. p. m. (Ex. 62). 0.03–2.95 p. p. m. (Ex. 687). 0.4–2.2 p. p. m. (Ex. 1245).
Chlordane (Ex. 155, 509, 769, 834)	Ex. 155	0.1–0.4 p. p. m. (Ex. 62). 2.5–7.5 p. p. m. (Ex. 738). 2.4–3.2 p. p. m. (Ex. 1245).
Chlorethyl butylphenoxymethylethyl sulfite—Aramite (Ex. 762).		
Chloropicrin (Ex. 696, 787)	Ex. 696	
Copper compounds (Ex. 286, 769, 834)		
Copper-8-quinolinolate (Ex. 787)		

FRUITS—Continued

PEACHES—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
DDT (Ex. 155, 164, 340, 834)	Ex. 834	0.7–6.0 p. p. m. (Ex. 34). 6.0–10.0 p. p. m. 11 days after application (Ex. 63). 5.0–10.0 p. p. m. 17 days after application (Ex. 63). 4.0–7.0 p. p. m. 25 days after application (Ex. 63). 2.6–4.5 p. p. m. 32 days after application (Ex. 63). 2.0–14.0 p. p. m. 93 to 31 days after application (Ex. 63). Brushing can reduce residue up to 50 percent (Ex. 63). 2.7 p. p. m. (Ex. 285). 2.1 p. p. m. 26 days after application (Ex. 297). 8.0–9.7 p. p. m. 30 days after application (Ex. 344). 2.3–8.8 p. p. m. (Ex. 400). 0.39–4.39 p. p. m. (Ex. 729). 6.9 p. p. m. (Ex. 1245).
2,3 Dichloro 1,4 naphthoquinone—Phygon (Ex. 164, 234, 834).	Ex. 834	
Dichloropropene—DD Mixture (Ex. 696, 787).	Ex. 696	
Dinitro compounds—DN compounds (Ex. 296, 509, 834).	Ex. 296	
di(Parachlorophenyl) methyl carbinol—Dimite—DMC (Ex. 287, 769).	Ex. 287	
Ethylene dibromide (Ex. 696, 787)	Ex. 696	
Ethylene dichloride (Ex. 5, 733, 834)	Ex. 834	
Ferbam (Ex. 164, 234, 787)		
Fluorine compounds—inorganic (Ex. 164; R. 360).	Ex. 164	1.9–0.3 p. p. m. (Ex. 62).
Glyoxalidines — 1-heptadecylglyoxalidine—Crag 341-C (Ex. 787).		
Lead arsenate (Ex. 287, 721, 769, 834)	Ex. 834	0.4–0.7 p. p. m. As_2O_3 (Ex. 62). 1.3–2.1 p. p. m. Pb (Ex. 62). 0.5–0.01 p. p. m. As_2O_3 28–40 days after application (Ex. 62). 1.5–0.03 p. p. m. Pb 28–40 days after application (Ex. 62). 4.9–2.0 p. p. m. Pb. Pb residues reduced ½ to ⅓ by brushing (Ex. 62; Tab. 9). 1.0 p. p. m. As_2O_3 (Ex. 161). 2.2–2.6 As_2O_3 (Ex. 738).
Lime (Ex. 156, 340, 834)	Ex. 156	
Manganese compounds—inorganic (Ex. 5).	Tree injection; Ex. 5.	
Mercury compounds—organic (Ex. 156, 164, 234, 834).	Ex. 156	
Methoxychlor (Ex. 155, 762, 834)	Ex. 155	1.01–1.33 p. p. m. (Ex. 62). 52.3–3.38 p. p. m. 1–45 days after application (Ex. 1006C). 9.9 p. p. m. 28 days after application (Ex. 1245).
Methyl bromide (Ex. 787)		
Nabam (Ex. 787)		
Nicotine (Ex. 161, 834)	Ex. 161	
Oil (Ex. 155, 287, 834)	Ex. 287	
Paradichlorobenzene-PDB (Ex. 291, 733, 834).	Ex. 834	
Parathion (Ex. 155, 178, 340, 733, 834)	Ex. 834	0.14–0.16 p. p. m. 9 days after application (Ex. 34). 0.06–0.13 p. p. m. 39 days after application (Ex. 34). Peel 0.65–3.18 p. p. m. 1 day after application (Ex. 62; Tab. 5). Pulp 0.07–0.21 p. p. m. 1 day after application (Ex. 62; Tab. 5). Peel 0.04–0.11 p. p. m. 28 days after application (Ex. 62; Tab. 5). Pulp 0.0005–0.04 p. p. m. 28 days after application (Ex. 62; Tab. 5). 0.22–1.55 p. p. m. 11 days after application (Ex. 62; Tab. 6). Ave. 0.02 p. p. m. 28 days after application (Ex. 62; Tab. 6).

FRUITS—Continued

PEACHES—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Parathion (Ex. 155, 178, 340, 733, 834)	Ex. 834	Ave. 0.11 p. p. m. 13 days after application (Ex. 62; Tab. 6). Ave. 0.03 p. p. m. 19 days after application (Ex. 62; Tab. 7). 0.15 p. p. m. 25 days after application (Ex. 63). 0.16–0.42 p. p. m. 31 days after application (Ex. 63). 0.6 p. p. m. (Ex. 285). 0.2–0.39 p. p. m. 16 days after application (Ex. 297). 0.6–0.49 p. p. m. 8 days after application (Ex. 297). 0.2–0.5 p. p. m. (Ex. 334). 0.005–0.11 p. p. m. 30 days after application (Ex. 336). 1.55 p. p. m. peel 11 days after application (Ex. 336). 1.15 p. p. m. 10 days after application (Ex. 400). 0.2–0.6 p. p. m. 30 days after application (Ex. 642). 0.01–0.38 p. p. m. (Ex. 687). 0.01–0.3 p. p. m. 20–60 days after application (Ex. 738). 1.5 p. p. m. 10 days after application (peel) (Ex. 871). 0.01–0.3 p. p. m. 98–24 days after application (peel) (Ex. 871).
Pyrethrum (Ex. 16, 834)	Ex. 16	
Rotenone (Ex. 16)	Ex. 16	
Sulfur (Ex. 155, 164, 834)	Ex. 155	
TDE—1,1-dichloro-2,2-bis (parachlorophenyl) ethane (Ex. 164, 308, 721, 769, 834).	Ex. 164	
Tetraethyl pyrophosphate—TEPP (Ex. 155, 287, 308, 834).	Ex. 287	
Thiram (Ex. 787)		
Toxaphene (Ex. 762, 834)	Ex. 834	2.5–5.7 p. p. m. (surface) (Ex. 687).
Zinc compounds—inorganic (Ex. 156, 340, 834).	Ex. 834	1.03–1.32 p. p. m. (Ex. 62). 1.1–2.8 p. p. m. (Ex. 881).
Zineb—Dithane—zinc ethylene bisdithiocarbamate (Ex. 787).		
Ziram—Zerlate—zinc dimethyl dithiocarbamate (Ex. 164, 235, 787, 834).	Ex. 834	

PEARS

Cadmium compounds—inorganic (Ex. 430).	Ex. 430	
Calcium arsenate (Ex. 238, 834)	Ex. 238	
Calcium cyanamide (Ex. 787)		
Copper compounds—inorganic (Ex. 153, 234, 769, 834).	Ex. 834	None (Ex. 161).
Copper-8-quinolinolate—Bioquin (Ex. 787).		
DDT (Ex. 153, 155, 238, 834)	Ex. 153	8.4–2.1 p. p. m. 4 applications (Ex. 42). 3.7–0.8 p. p. m. 30 days after application (Ex. 161). 3.5–0.3 p. p. m. (Ex. 184B). 4.9–0.9 p. p. m. (Ex. 184D). 6.3–0.1 p. p. m. (Ex. 184K). 6.0–2.1 p. p. m. (Ex. 254). 5.7–0.3 p. p. m. (Ex. 259). 36 percent to 59 percent removal with Balab wash (Ex. 284). 4.2–0.8 p. p. m. (Ex. 285). 10.2–0.3 p. p. m. (Ex. 297). 2.7–0.4 p. p. m. (Ex. 642).
2,3-Dichloro 1,4-naphthoquinone—Phygon (Ex. 787).		
2,4 Dichlorophenoxyacetic acid—2,4-D (Ex. 168).	Ex. 168	
Dinitro compounds (Ex. 155, 238, 834)	Ex. 238	
Ferbam (Ex. 153, 156, 234, 769, 834)	Ex. 153	
Fluorine compounds—inorganic (Ex. 153, 834).	Ex. 153	Generally 7 p. p. m. or below (Ex. 183C).

FRUITS—Continued

PEARS—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Glyoxalidines—Crag 341–C (Ex. 163, 787)		
Lead arsenate (Ex. 153, 155, 238, 340, 834)	Ex. 153	32/39 samples 7 p. p. m. Pb (Ex. 183C). 3/39 samples 14 p. p. m. Pb (Ex. 183C). 0.3–6.8 p. p. m. Pb (Ex. 259). 0.1–3.3 p. p. m. As (Ex. 259). 5–18 p. p. m. lead arsenate Ex. 285).
Lime (Ex. 153, 155, 234, 769, 834)	Ex. 155	
Mercury compounds—organic (Ex. 430, 787).	Ex. 430	
Nabam (Ex. 787)		
1-Naphthaleneacetic acid (Ex. 168, 925)	Ex. 925	
Nicotine (Ex. 155, 834)	Ex. 155	
Oil (Ex. 153, 155, 834)	Ex. 153	
Parathion (Ex. 153, 155, 834)	Ex. 153	2 lb. per gal.: 1 day after application 2.5 p. p. m.; 7 days after application 0.6 p. p. m.; 14 days after application 0.4 p. p. m.; 28 days after application 0.3 p. p. m. (Ex. 21). 0.1 p. p. m. 30 days after application (Ex. 161). 0.08 p. p. m., days after application not indicated (Ex. 285). 0.09 p. p. m. 39 days after application (Ex. 297). 0.03–0.08 p. p. m. 21 days after application (Ex. 642). 0.01–0.04 p. p. m. 33 days after application (Ex. 642). 0.01 p. p. m. 14 days after application (Ex. 667). 0.03–0.05 p. p. m. 30 days after application (Ex. 871). 0.01–0.04 p. p. m. 30+ days after application (Ex. 185).
Pyrethrum (Ex. 834)		
Rotenone (Ex. 153, 834)	Ex. 834	
Sulfur (Ex. 153, 156, 234, 834)	Ex. 834	
TDE—DDD—Rhothane (Ex. 286, 834)	Ex. 286	1.8 p. p. m. (Ex. 161).
Tetraethyl pyrophosphate—TEPP (Ex. 153, 834).	Ex. 153	
Thiram (Ex. 787)		
Toxaphene (Ex. 834)	Ex. 834	
Zinc compounds—inorganic (Ex. 5)		
Zineb (Ex. 153, 787, 834)		
Ziram (Ex. 153, 163, 787)		

PINEAPPLE

(All data obtained from Exhibit 780)

BHC	For mealy bugs and ants.	
Chlordane	do	
DDT [1]	do	0–0.1 p. p. m. on flesh basis (Ex. 780). 3.3–7.6 p. p. m. on shell 3 days after application (Ex. 780). 0.2–3.1 p. p. m. on shell 11–40 days after application (Ex. 780).
Diethylparanitrophenylphosphate	do	
EPN	do	
Lindane	do	
Methoxychlor	do	
Octomethylpyrophosphoramide	do	
Oil emulsions [1]	do	
Parathion	do	0–0.2 p. p. m. flesh 14 days after application (Ex. 780). 0–2.0 p. p. m. on shell 30 days after application (Ex. 780).
Aldrin	For soil treatment	
Chloropicrin [1]	do	
DD [1]	do	
Dieldrin	do	
Ethylene chlorobromide [1]	do	
Ethylene dibromide [1]	do	
Calcium chloride [1]	For plant growth promotion.	
Ethylene [1]	do	
Sodium alphanaphthaleneacetic acid [1]	do	

[1] Indicates chemicals in use during 1956.

FRUITS—Continued

PINEAPPLE—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Sodium betanaphthoxyacetic acid [1]	For plant growth promotion.	
Sodium phenoxy-alphapropionic acid [1]	do	
Pentachlorophenol [1]	As a herbicide	
Sodium pentachlorophenate [1]	do	
Sodium trichloroacetate [1]	do	

PLUMS

Benzene hexachloride (Ex. 315, 356, 834)	Ex. 315	
Calcium arsenate (Ex. 16)		
Chlordane (Ex. 155, 723, 834)	Ex. 155	
Chloroethyl butylphenoxymethylethyl sulfite—Aramite (Ex. 762).		
Copper compounds—inorganic (Ex. 155, 295, 315, 340, 834).	Ex. 769	
DDT (Ex. 153, 155, 164, 834)	Ex. 155	0.5–1.0 p. p. m. (Ex. 297).
Dinitro compounds	Ex. 356	0–0.2 p. p. m. (Ex. 974).
di(Parachlorophenyl) methylcarbinol—Dimite—DMC (Ex. 154).	Ex. 154	
Ethylene dichloride (Ex. 356, 834)	Ex. 356	
Ethyl paranitrophenylthiophosphonate—EPN (Ex. 762).	Ex. 1008C	0.002–0.55 p. p. m. (Ex. 1008C).
Ferbam (Ex. 156, 164, 834)	Ex. 156	
Fluorine compounds—inorganic (Ex. 293)	Ex. 293	
Glyoxalidines (Ex. 787)		
Lead arsenate (Ex. 164, 237, 340, 834)	Ex. 155	
Lime (Ex. 153, 156. 533, 834)	Ex. 155	
Mercury compounds—organic (Ex. 787)		
Methoxychlor (Ex. 155, 402, 762)	Ex. 155	0.85–3.96 p. p. m. (Ex. 1006C).
Nabam (Ex. 787)		
Nicotine (Ex. 237, 356, 769, 834)	Ex. 356	
Oil (Ex. 153, 155, 237, 834)	Ex. 356	
Paradichlorobenzene (Ex. 153, 356, 834)	Ex. 356	
Parathion (Ex. 155, 178, 315, 834)	Ex. 153	0.01 p. p. m. 60 days after application (Ex. 161). 0.01 p. p. m. 68–98 days after application (Ex. 297). 0.5–0.6 p. p. m. at harvest (Ex. 354). 0.19 p. p. m. 10 days after application (Ex. 402). 0–0.3b p. p. m. 5 days after application (Ex. 871).
Propylene dibromide (Ex. 356, 834)		
Pyrethrum (R. 1418)		
Rotenone (Ex. 153)		
Sulfur (Ex. 153, 156, 237, 834)	Ex. 155	
Tartar emetic (R. 1061)		
TDE-DDD-Rhothane (Ex. 153, 315, 762)	Ex. 153	0.6 p. p. m. (Ex. 161). 0.14–0.92 p. p. m. (Ex. 297).
Tetraethyl pyrophosphate—TEPP (Ex. 153, 155, 315, 834).	Ex. 153	
Thiram (Ex. 787)		
Toxaphene (Ex. 762, 834)	Ex. 834	
Zinc compounds—inorganic (Ex. 156, 284, 745, 834).	Ex. 834	
Zineb (Ex. 787)		
Ziram (Ex. 787)		

QUINCES

Cadmium compounds—inorganic (Ex. 430).	Ex. 430	
Copper compounds—inorganic (Ex. 163, 430, 787).	Ex. 163	
DDT (Ex. 155, 354)	Ex. 155	3–7 p. p. m. (Ex. 403).
Dinitro compounds (Ex. 354)	Ex. 354	
Ferbam (Ex. 155, 163, 430)	Ex. 430	
Glyoxalidine—Crag 341–C (Ex. 163)	Ex. 163	
Lead arsenate (Ex. 155, 354)	Ex. 354	
Lime (Ex. 155, 163, 354)	Ex. 163	
Mercury compounds—organic (Ex. 430)	Ex. 430	
Nicotine (Ex. 155)	Ex. 155	
Oil (Ex. 354)	Ex. 354	Experimental residue study; 66 p. p. m. 21 days after application (Ex. 1049).
Parathion (Ex. 354)	Ex. 354	

[1] Indicates chemicals in use during 1950.

FRUITS—Continued

QUINCES—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Rotenone (Ex. 155)	Ex. 155	
Sulfur (Ex. 155, 163)	Ex. 430	
Thiram (Ex. 787)		
Ziram (Ex. 163)	Ex. 163	

RASPBERRIES

Calcium arsenate (Ex. 835)	Ex. 835	
Chlordane (Ex. 834)	Ex. 834	
Chloropicrin (Ex. 787)		
Copper compounds—inorganic (Ex. 156, 230, 696, 721, 834).	Ex. 696	
DDT (Ex. 155, 199, 295, 509, 834)	Ex. 295	
2,3 Dichloro 1,4 naphthoquinone (Ex. 156).		
Dinitro compounds (Ex. 155, 168, 453, 721)	Ex. 453	
Ferbam (Ex. 155, 453, 725, 834)	Ex. 155	
Fluorine compounds (Ex. 168)	Ex. 75	1–6.3 p. p. m. (Ex. 75). 0.6–7.0 p. p. m. (Ex. 192).
Formaldehyde (Ex. 787)		
Glyoxalidine (Ex. 787)		
Lead arsenate (Ex. 155, 199, 725, 769, 834)	Ex. 155, 834	Maximum 1933/36, 8 p. p. m. As_2O_3 (Ex. 75). Maximum 1933/36, 21 p. p. m. Pb (Ex. 75).
Lime (Ex. 155, 696, 725, 769)	Ex. 834	
Mercury compounds—organic (Ex. 156, 787).		
Methoxychlor (Ex. 168 (28c)		
Nabam (Ex. 163, 787)		
Nicotine (Ex. 158, 834		
Oil (Ex. 199, 769)	Ex. 199, 769	
Parathion (Ex. 161, 295, 834)	Ex. 295	0.02–0.1 p. p. m., 7 days after application (Ex. 192).
Pyrethrum (Ex. 725)	Ex. 725	
Rotenone (Ex. 75, 509, 725, 834)	Ex. 509	
Sulfur (Ex. 156, 295, 690, 721, 834)	Ex. 690	
TDE—DDD—Rhothane (Ex. 168, 199, 295).	Ex. 199	1.0–12.5 p. p. m. (Ex. 192). 1.1–13.4 p. p. m. (Ex. 199).
TEPP (Ex. 161, 689, 834)	Ex. 834	
Thiram (Ex. 787)		
Toxaphene (Ex. 834)	Ex. 834	
Zineb (Ex. 457, 898b, 787)		
Ziram (Ex. 453, 787)	Ex. 453	

RHUBARB

Copper compounds—inorganic (Ex. 195, 787).	Ex. 156	
DDT (R. 439)	R. 439	
Formaldehyde (Ex. 156)	Ex. 156	
Lime-aluminum-sulfate (R. 439)	R. 439	
Mercury compounds—inorganic (Ex. 156)	Ex. 156	

STRAWBERRIES

Benzene hexachloride (Ex. 834)		
Calcium arsenate (Ex. 71, 281, 834)	Ex. 71, 834	
Chlordane (Ex. 153, 530, 751, 834)	Ex. 153	
Chloropicrin (Ex. 787)		
Copper compounds—inorganic (Ex. 156, 281, 696, 769, 834).	Ex. 696	
DDT (Ex. 530, 689, 834)	Ex. 689	1 p. p. m. (Ex. 161). 3.4 p. p. m. (Ex. 206). 0.6 p. p. m. (Ex. 285).
Dinitro compounds (Ex. 281, 689)	Ex. 689	
Ethylene dibromide (Ex. 696, 787)	Ex. 696	
Ferbam (Ex. 745, 787)	Ex. 745	
Fluorine compounds—inorganic (Ex. 71, 834).	Ex. 834	
Formaldehyde (Ex. 787)		
Lead arsenate (Ex. 533, 769, 834)	Ex. 769	
Lime (Ex. 769, 834)	Ex. 769	
Methoxychlor (Ex. 769; R. 4824–4825)		
Methyl bromide (Ex. 787)		

FRUITS—Continued

STRAWBERRIES—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Nabam (Ex. 156, 787)	Ex. 156	
Nicotine (Ex. 153, 281, 530, 834)	Ex. 153	
Oil (Ex. 153, 834)	Ex. 834	
Parathion (Ex. 153, 360, 689, 751)	Ex. 153	0.20–0.1 p. p. m. 4 days after application (Ex. 642). None 30 days after application (Ex. 642). 0.2 p. p. m. 10 days after application (Ex. 871).
Pyrethrum (Ex. 834, 733)		
Rotenone (Ex. 733, 769, 834)	Ex. 769	
Sabadilla (Ex. 751)		
Sulfur (Ex. 281, 530, 689, 834)	Ex. 689	
TDE—DDD—Rhothane (Ex. 360, 762)	Ex. 360	
Tetraethyl pyrophosphate—TEPP (Ex. 153, 689, 834).	Ex. 153	
Thiram (Ex. 787)		
Toxaphene (Ex. 834)	Ex. 834	
Zineb (Ex. 156)	Ex. 156	

VEGETABLES

ARTICHOKES

Arsenic-metaldehyde baits (Ex. 290)	Ex. 290	
DDT (Ex. 290)	Ex. 290	
Nicotine (Ex. 290)	Ex. 290	
Parathion (Ex. 290)	Ex. 290	0–0.22 p. p. m. (Ex. 285). 0.22 p. p. m. 17 days after application (Ex. 297). 0.03 p. p. m. 58 days after application (Ex. 297). 1.00 p. p. m. 30 days after application (Ex. 161).

ASPARAGUS

BHC (Ex. 161)		
Calcium arsenate (Ex. 165, 834)		
Chloropicrin (Ex. 787)		
DDT (Ex. 201, 834, 887)	Not applied commercially; Ex. 364.	Experimental: 5.9 p. p. m. 3 days after application (Ex. 205); 1.7 p. p. m. 3 days after application and processing (Ex. 898).
Ethylene dibromide (Ex. 787)		
Ferbam (Ex. 787)		
Lead arsenate (Ex. 364, 834)	Ex. 364	
Methoxychlor (Ex. 699, 887)	Ex. 699	
Methyl bromide (Ex. 787)		
Nicotine (Ex. 726)		
Pyrethrum (R. 2936)	R. 2936	
Rotenone (Ex. 155, 164, 834, 887)	Ex. 165	
Sulfur (Ex. 513, 787; R. 2981)		
Toxaphene (Ex. 726)	Ex. 726	

BEANS—LIMA

Benzene hexachloride (Ex. 886)	To pods; Ex. 886	
Chlordane (Ex. 751)	To pods; Ex. 751, 834	
DDT (Ex. 762, 886)	To pods; Ex. 886	
Ferbam (Ex. 787)		
Fluorine compounds (Ex. 834)	To pods; Ex. 834	
Magnesium arsenate (Ex. 762)		
Mercury compounds—organic (Ex. 854)	To seed; Ex. 854	
Methoxychlor (Ex. 762, 834 (New Jersey))	To pods; Ex. 834	
Nabam (Ex. 787)		
Nicotine (Ex. 834, 886)	To pods; Ex. 886	
Parathion (Ex. 762, 834 (New Jersey))	To pods; Ex. 834	
Pyrethrum (Ex. 834)	To pods; Ex. 834 (New Jersey).	
Rotenone (Ex. 762, 834 (New Jersey))	To pods; Ex. 834 (New Jersey).	
Sabadilla (Ex. 834)	To pods; Ex. 834 (Louisiana).	
Sulfur (Ex. 886)	To pods; Ex. 834 (New Jersey), 886.	
Tetraethyl pyrophosphate (Ex. 161)	To pods; Ex. 161	

VEGETABLES—Continued

BEANS—LIMA—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Thiram (Ex. 513)	Ex. 513	
Toxaphene (Ex. 533, 762)		
Zineb (Ex. 710, 787)	Ex. 787	
Ziram (Ex. 787)		

BEANS—SNAP (SUCCULENT)

Benzene hexachloride (Ex. 886)	Ex. 886	
Chlordane (Ex. 834)	Ex. 834 (Louisana)	
DDT (Ex. 161, 762)	Ex. 161, 886	1 p. p. m. 5 percent dust (Ex. 375). 0.1–0.44 p. p. m. at harvest (Ex. 1246). 0.8–0.31 p. p. m. after blanching (Ex. 1246). 0.02–0.11 p. p. m. canned (Ex. 1246).
Fluorine compounds—inorganic (Ex. 834)	Ex. 834	
Magnesium arsenate (Ex. 762)		
Mercury compounds—organic (Ex. 853)	Ex. 853	
Methoxychlor (Ex. 834, 762)	Ex. 834	0.09–0.15 p. p. m. after canning (Ex. 1246).
Nicotine (Ex. 886)	Ex. 886	
Parathion (Ex. 762, 834 (New Jersey))	Ex. 762, 834	0.80–0.34 p. p. m. few hours after application (Ex. 204). 0.09 p. p. m. 2 days after application (Ex. 204). 0.08–0.14 p. p. m. 7 days after application (Ex. 204). 0.01 p. p. m. 5 days after application (Ex. 375). 0.09–0.88 p. p. m. (Ex. 871). Parathion 20 percent and 80 percent methyl ester: (3 lb./100 gal.) 2.1 p. p. m. 4 days after application; 1.0 p. p. m. 8 days after application; 0.4 p. p. m. 11 days after application; 0.2 p. p. m. 16 days after application (Ex. 878). Parathion 20 percent and 80 percent methyl ester (3 lb./100 gal.): 7 p. p. m.–0 p. p. m. 4 days after application; 12 p. p. m.–0.3 p. p. m. 4 days after application (1 lb./100 gal.); 30 p. p. m.–1.0 p. p. m. 4 days after application (3 lb./100 gal.) (Ex. 879). 0.09 p. p. m.–0.08 p. p. m. 2 to 7 days after application, ½ percent dust, 50 lb. per acre (Ex. 898B). 0.23 p. p. m. 0 days after application dusted 0.31 lb. per acre; 0.01 p. p. m. 4 days after application 0.31 lb. per acre (Ex. 1246).
Pyrethum (Ex. 834 (New Jersey))	Ex. 834 (New Jersey)	
Rotenone (Ex. 762, 834)	Ex. 834 (New Jersey)	
Sabadilla (Ex. 834)	Ex. 834 (Louisiana)	
Sulfur (Ex. 834, 886)	Ex. 834 (New Jersey)	
TEPP (Ex. 165)	Ex. 165	
Thiram (Ex. 513)	Ex. 513, 745	
Toxaphene (Ex. 533, 762)		
Zineb (Ex. 157)	Ex. 157	10.2–3.0 p. p. m. 0–5 days after application (Ex. 1010B).

BEANS NOT OTHERWISE SPECIFIED

Benzene hexachloride (Ex. 161, 866)	Ex. 161	Ex. 161.
Bismuth subsalicylate (Ex. 787 (Tab. 67))		
Calcium arsenate (Ex. 201)		
Calcium cyanamide (Ex. 787)		
Carbon disulfide (Ex. 201)		
Chlordane (Ex. 525, 834)	Ex. 161	
Copper compounds—inorganic (Ex. 513, 745, 787).	Ex. 513, 843	
Copper arsenite (Ex. 161, 533, 834)	Ex. 161, 533	
DDT (Ex. 201, 533, 834)	Ex. 834	0.8–4.1 p. p. m. 3 and 5% dust 3 days after application (Ex. 205). 0.6–1.8 p. p. m. (Ex. 285 (p. 15)).
2,3 dichloro 1,4 napthoquinone (Ex. 156)	Ex. 156	
Dinitro compounds (R. 591)	R. 591	
Ethylene dibromide (Ex. 161)	Ex. 161	
Ferbam (Ex. 555, 745, 787)	Ex. 555	
Fluorine compounds (Ex. 71, 201, 834)		
Mercury compounds—inorganic (Ex. 787)		

VEGETABLES—Continued

BEANS NOT OTHERWISE SPECIFIED—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Mercury compounds—organic (Ex. 787)		
Methoxychlor (Ex. 161, 834)	Ex. 161, 834	0.3–1.4 p. p. m. (Ex. 285). 0.5 p. p. m. 3 days after application (Ex. 898B II).
Nabam (Ex. 555, 787)	Ex. 555	
Nicotine (Ex. 201)		0.08 p. p. m. (Ex. 201).
Parathion (Ex. 533, 834)	Ex. 834	0.8 p. p. m. (Ex. 285).
Rotenone (Ex. 161, 834)	Ex. 161, 834	
Sulfur (Ex. 161, 555)	Ex. 161, 555	
TDE, DDD, Rhothane (Ex. 161, 533)	Ex. 161, 533	
Thiram (Ex. 745)	Ex. 745	
Toxaphene (Ex. 745)		
Zineb (Ex. 555)	Ex. 555	
Ziram (Ex. 834)	Ex. 834	Green beans: 9.8 p. p. m.; 17.3 p. p. m. 3 days after application; 3.2 p. p. m. 6 days after application (Ex. 1009 F).

BEETS

Benzene hexachloride (Ex. 161, 699)	To tops; Ex. 699	
Chlordane (Ex. 529, 726, 887, 889)	To tops; Ex. 887	
Copper compounds (Ex. 156, 834, 886)	To tops; Ex. 834 (Ohio).	
DDT [2] (Ex. 161, 699, 726, 887)	To tops; Ex. 161, 699 Ex. 834 (Louisiana) (Texas), 201.	
Dichloropropane (Ex. 161)	To soil; Ex. 161	Ex. 978.
Ethylene dibromide (Ex. 161)	do	Ex. 978.
Ferbam (R. 3310)	To tops; R. 3310	
Fluorine compounds [2] (Ex. 699, 834 (Louisiana) (Texas)).	To tops; Ex. 699 Ex. 834 (Louisiana) (Texas).	
Mercury compounds—organic (Ex. 71, 156, 163).	To seed; Ex. 71, 156, 163.	
Methoxychlor (Ex. 889)	To tops; Ex. 889	
Nabam (Ex. 787, 834; R. 3310)	To tops; R. 3310	
Nicotine (Ex. 165, 699)	To tops; Ex. 165, 699	
Parathion (Ex. 699)	To tops; Ex. 699. To soil; Ex. 871.	0.03 p. p. m. surface 67 days after application soil treatment 25 lb. acre (Ex. 871). 0.06 p. p. m. surface 67 days after application soil treatment 100 lb. acre (Ex. 871).
Pyrethrum (Ex. 699, 887)	To tops; Ex. 887 To roots; Ex. 699	
Rotenone (Ex. 699, 726, 834)	To tops; Ex. 699, 834	
Sulfur (Ex. 834)	To tops; Ex. 834	
TEPP (Ex. 699)	To tops; Ex. 165, 699	
Zineb (Ex. 787, 834; R. 3310)	To tops; R. 3310	
Ziram (Ex. 787, 834; R. 3310)	To tops; R. 3310	

BROCCOLI

Benzene hexachloride (Ex. 362, 533)	Ex. 362	
Calcium arsenate [3] (Ex. 71; R. 1267)	Ex. 71	
Chlordane (Ex. 165, 362, 527)	Ex. 527	
Copper compounds—inorganic (Ex. 745)	Ex. 745	
Copper-8-quinolinolate	For seed treatment (Ex. 158).	
DDT [3] (Ex. 165, 362, 507, 527)	Ex. 527, 834	10.2, 7.6, 4.8 p. p. m. (Ex. 205). 4.8 p. p. m. (processed) (Ex. 285).
2,3 Dichloro 1,4 naphthoquinone (Ex. 555, 787, 853).	To seed and soil; Ex. 555, 787, 853.	
Ferbam (Ex. 745)	Ex. 745	
Fluorine compounds—inorganic [3] (Ex. 71; R. 1267).	Ex. 71	
Lime (Ex. 745)	To soil; Ex. 745	
Mercury compounds—inorganic (Ex. 507, 513, 745).	To seed; Ex. 745 To soil; Ex. 513 To roots; Ex. 507	
Mercury compounds—organic (Ex. 156, 787).	To seed; Ex. 156	
Methoxychlor (Ex. 834 (Ohio))		

[2] Not used if tops are to be eaten.
[3] Not recommended for use after heads form; Ex. 71, 165, 507.

VEGETABLES—Continued

BROCCOLI—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Nabam (Ex. 555, 787)		
Nicotine (Ex. 71, 362, 533, 834)	Ex. 71, 362	
Parathion (Ex. 362, 527, 533)	Ex. 362, 527, 533	0.22 p. p. m. 2 days after application (airplane); 0.42 p. p. m. 2 days after application (ground duster); 0.47 p. p. m. 7 days after application (hand duster) (Ex. 204). 0.48 p. p. m. 1 day after application, heads; 0.50–0.73 p. p. m. 1 day after application, leaves; 0.83 p. p. m. 2 days after application, heads; 0.29–0.36 p. p. m. 2 days after application, leaves; 0.66 p. p. m. 7 days after application, heads; 0.21 p.p.m. 7 days after application, leaves (Ex. 531). 0.3 p. p. m. 2 days after application, surface (Ex. 871). 0.47–0.5 p. p. m. 7 days after application (Ex. 898B II).
Pyrethrum (Ex. 71, 362, 507)	Ex. 71, 362	
Rotenone (Ex. 71, 165, 362, 507)	Ex. 71, 362	
Sabadilla (Ex. 834 (Texas))	Ex. 834 (Texas)	
Sulfur (Ex. 787, 834)		
TDE [4] (Ex. 362, 886)	To seedbeds; Ex. 362	
TEPP (Ex. 165, 362, 527)	Ex. 362, 527	
Thiram (Ex. 533, 745, 853)	To seed; Ex. 533, 745	
Toxaphene (Ex. 527)	Ex. 527	
Zinc compounds—inorganic (Ex. 472, 787)	To seed and soil; Ex. 472, 787.	
Zineb (Ex. 745, 787)	Ex. 745	
Ziram (Ex. 555, 745)	Ex. 555, 745	

BRUSSELS SPROUTS

Aldrin (Ex. 290)	Ex. 290	
Arsenic-metaldehyde baits (Ex. 290)	Ex. 290	
Benzene hexachloride (Ex. 290, 699, 762)	To seed; Ex. 290, 699	
Calcium arsenate [5] (Ex. 71)	Ex. 71, 835	
Chlordane (Ex. 290, 362, 834)	Ex. 290, 362	
Copper compounds—inorganic (Ex. 555, 787).	Ex. 555	
Copper-8-quinolinolate (Ex. 156)	To seed; Ex. 156	
DDT [5] (Ex. 155, 290, 699, 834)	Ex. 155, 290, 699, 834 (Louisiana).	
2-3 Dichloro 1,4 naphthoquinone—Phygon (Ex. 555, 787, 853).	To seed; Ex. 555, 853	
Ferbam (Ex. 555, 787; R. 3310)	Ex. 555	
Fluorine compounds [5] (Ex. 71, 699)	Ex. 71, 699	
Mercury compounds—inorganic (Ex. 362, 472, 787, 834).		
Mercury compounds—organic (Ex. 156, 787, 853).	Ex. 156	
Methoxychlor (Ex. 762, 834)		
Nabam (Ex. 555, 787)	Ex. 555	
Nicotine (Ex. 155, 290, 699, 834)	Ex. 699	
Parathion (Ex, 290, 834)	Ex. 290	0.4–0.7 p. p. m. 4 days after application; 0.1 p. p. m. 11 days after application; none 17 days after application; 1.9–0.8 p. p. m. 4 days after application; 2.9–0.2 p. p. m. 11 days after application; 1.5–0 p. p. m. 17 days after application (Ex. 871).
Pyrethrum (Ex. 156, 699, 834)	Ex. 699	
Rotenone (Ex. 155, 699, 834)	Ex. 290, 699	
Sabadilla (Ex. 699, 834)	Ex. 699	
Sulfur (Ex. 787, 834)	To seedbeds; (Ex. 834 (Louisiana.))	
TDE (R. 2397)	R. 2397	
Tetrachlorobenzoquinone—Spergon (Ex. 71, 555, 854).	Ex. 854	
Tetraethyl pyrophosphate (Ex. 290, 699, 834).	Ex. 290, 699	

[4] Not recommended to be used after heads form; Ex. 362.
[5] Not to be used after sprouts begin to form; Ex. 71, 155, 290, 834.

VEGETABLES—Continued

BRUSSELS SPROUTS—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Thiram (Ex. 71)	To seed and seedlings (Ex. 71)	
Zineb (Ex. 555, 787)	Ex. 555	
Ziram (Ex. 555, 787)	Ex. 555	

CABBAGE

Arsenic-metaldehyde bait (Ex. 290)	Ex. 290	
Benzene hexachloride (Ex. 290, 699)	Ex. 290, 699	
Bioquin (Ex. 156)	Ex. 156	
Calcium arsenate [6] (Ex. 71, 161, 201, 733)	Ex. 71	Ex. 161.
Chlordane (Ex. 290, 507, 726, 834)	Ex. 290, 726	Ex. 161.
Chloropicrin (Ex. 787)	Ex. 787	
Copper arsenate (Ex. 835 (p. 32); R. 1846, 1855).	To small plants; Ex. 835 (p. 32); R. 1855.	0.1–4.7 p. p. m. As_2O_3 (Ex. 66).
Copper compounds—inorganic (Ex. 513, 555, 745, 889).	Ex. 745	0.04–11.3 p. p. m. As_2O_3 (Ex. 66).
DDT [6] (Ex. 155, 201, 527, 826, 834)	Ex. 155, 527	0.02–9.0 p. p. m. whole head (Ex. 68). 54.5–59.9 p. p. m. outer leaves (Ex. 68). 0.2–1.1 p. p. m. (Ex. 161). 4.2 p. p. m. outer leaves (Ex. 285). 1.1 p. p. m. inner leaves (Ex. 285).
2,3 Dichloro 1,4 naphthoquinone—Phygon (Ex. 555, 787, 853).	To seedbeds; Ex. 555, 853.	
Dieldrin (Ex. 327)	Ex. 527	
Ethylene dibromide (Ex. 787)		
Ferbam (Ex. 163, 555, 710, 787)	Ex. 555, 710	
Fluorine compounds—inorganic (Ex. 699, 733, 889).	Ex. 699	1.2 p. p. m. (Ex. 68).
Lime (Ex. 513, 745)		
Mercury—inorganic compounds (Ex. 507, 513, 699, 726, 834).	Ex. 507	
Mercury—organic compounds (Ex. 507)	To seed; Ex. 507	
Methoxychlor (Ex. 533, 834, 889)		5.8–13.5 p. p. m. (Ex. 1006C).
Methyl bromide (Ex. 787)		
Nabam (Ex. 527, 787)	Ex. 527	
Nicotine (Ex. 155, 201, 362, 834)	Ex. 699	None (Ex. 161).
Parathion (Ex. 290, 362, 527, 834)	Ex. 527	0.1–3.7 p. p. m. (Ex. 871). 0.5 p. p. m. (Ex. 285). 0.0–0.13 p. p. m. 32 days after application (Ex. 642).
Parzate—disodium ethylene bisdithiocarbamate (Ex. 527, 745, 787, 886).	Ex. 527	
Pyrethrum (Ex. 155, 201, 507, 699)	Ex. 699	
Rotenone (Ex. 726, 751, 834)	Ex. 889	23.2–48.6 p. p. m. before rain; 1.9–3.6 p. p. m. after rain (Ex. 124).
Sabadilla (Ex. 699, 733, 834)	Ex. 699	None (Ex. 161).
Sulfur (Ex. 787, 834)		
TDE—Rhothane—DDD (Ex. 68, 327, 337, 348, 373).	Ex. 527	
TEPP (Ex. 290, 362, 527, 699)	Ex. 527, 699	None (Ex. 161).
Thiram (Ex. 71, 745, 853)	To seed; Ex. 745	
Toxaphene (Ex. 527)	Ex. 527	2.4–4.0 p. p. m. outer leaves; none on heads (Ex. 881).
Zinc salts (Ex. 472, 527, 787)	Ex. 527	
Zineb (Ex. 527, 745, 787, 886)	Ex. 527	
Ziram (Ex. 163, 533)	Ex. 163	

CANTALOUPES OR MUSKMELONS

Benzene hexachloride (Ex. 533, 834 (Texas)).	Ex. 834	
Calcium arsenate (Ex. 71, 201, 726)	Ex. 71	
Chlordane (Ex. 533, 889)		
Copper compounds—inorganic (Ex. 71, 156, 472, 507, 825).	Ex. 71, 156	
Copper-8-quinolinolate (Ex. 787)	Ex. 787	

[6] Not to be used after heads begin to form; Ex. 71, 155.

VEGETABLES—Continued

CANTALOUPES OR MUSKMELONS—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Copper-zinc-chromate complex (Ex. 787)		
DDT (Ex. 165, 201, 726, 733, 834)	Ex. 834 (Ohio)	
2,3 Dichloro 1,4 naphthoquinone—Phygon (Ex. 787).		
Dithane—disodium ethylene bisdithiocarbamate (Ex. 733, 825, 834, 889).	Ex. 733	
Ethylene dibromide (Ex. 555)		
Ferbam (Ex. 156, 533, 834)	Ex. 156	
Fluorine compounds—inorganic (Ex. 533, 699, 834, 889).	Ex. 71	
Lime (Ex. 533; R. 3821)	R. 3821	
Mercury compounds—inorganic	To seed; Ex. 71, 156	
Mercury compounds (organic)—Semesan (Ex. 156, 473, 507, 513, 533).	Ex. 156	
Methoxychlor (Ex. 513, 534, 699, 834)	Ex. 834	
Methyl bromide (Ex. 476)	As soil fumigant	
Nabam (Ex. 533, 733, 787)		
Nicotine (Ex. 201, 513, 533, 834)	Ex. 201	
Parathion (Ex. 161, 533, 834)	Ex. 834	None 1–5 weeks after application (Ex. 161).
Pyrethrum (Ex. 513, 699, 726, 834)	Ex. 834	
Rotenone (Ex. 699, 726, 834, 889)	Ex. 71, 834	
Sabadilla (Ex. 699, 733, 834, 889)	Ex. 834	
Sulfur (Ex. 165, 472)	Ex. 165	
TDE (Ex. 528)		
Tetraethyl pyrophosphate (Ex. 161, 165, 533, 726).	Ex. 165, 726	None 1–6 weeks after application (Ex. 161).
Tetrachlorobenzoquinone—Spergon (Ex. 156).	Ex. 156	
Thiram (Ex. 156, 507, 533)	Ex. 156	
Zinc compounds—inorganic (R. 5013)		
Zineb (Ex. 733, 825, 834, 889)	Ex. 733	
Ziram (Ex. 156, 513, 825, 834)	Ex. 156	

CARROTS

Calcium arsenate (Ex. 835 (p. 33))		
Chlordane (Ex. 165, 527)		
Chloropicrin (Ex. 476, 787)		
Copper arsenate (Ex. 835 (p. 32))		
Copper compounds—inorganic (Ex. 156, 476, 507, 513, 710, 745, 834).		
DDT (Ex. 201, 726, 751, 834)		1 p. p. m. (Ex. 376).
2,3 Dichloro 1,4 naphthoquinone—Phygon (Ex. 787; R. 2644).		
Ethylene dibromide (Ex. 161, 476, 555)		
Ferbam (Ex. 747)		
Fluorine compounds (Ex. 161, 834)		
Mercury compounds—inorganic (Ex. 710, 787).		
Mercury compounds—organic (Ex. 156, 163).		
Methyl bromide (Ex. 787)		
Nabam (Ex. 533, 787)		
Naphthalene (Ex. 71, 168)		
Oil (Ex. 834)		
Parathion (Ex. 161, 763, 1265A)		0.12 p. p. m. roots 5–13 days after application; 0.90 p. p. m. tops 5–13 days after application (Ex. 642). 0.56 p. p. m. 82 days after application 25 lb./acre; 0.93 p. p. m. 82 days after application 100 lb./acre (Ex. 871).
Pyrethrum (Ex. 161)		
Rotenone (Ex. 726, 834)		
Sulfur (Ex. 886, 902)		
TDE (Ex. 161)		
Tetrachlorobenzoquinone—Spergon (Ex. 473, 507, 513, 533, 853).		
Tetraethyl pyrophosphate (R. 3818)	Against red spider	
Thiram (Ex. 156, 473, 507, 513, 533)		
Toxaphene (Ex. 762; R. 3225)		
Zineb (Ex. 476, 745, 834)		
Ziram (Ex. 476, 533, 745, 834)		

VEGETABLES—Continued

CAULIFLOWER

Name of pesticide	Reference to method of application	Range in quantity of residues
Benzene hexachloride (Ex. 507, 533, 699, 762).	Ex. 362	
Calcium arsenate [7] (Ex. 71, 201)	Ex. 71, 201	
Chlordane (Ex. 165, 362, 527, 607, 726, 834)	Ex. 527	
Copper arsenate (Ex. 835 (p. 33))	As baits; Ex. 835	
Copper compounds—inorganic (Ex. 513, 555, 745).	Ex. 513	
Copper-8-quinolinolate (Ex. 156)	Ex. 156	
DDT (Ex. 155, 201, 507, 527, 834)	Ex. 527	0–5.8 p. p. m. whole head (Ex. 367). 0–0.06 curd only (Ex. 367).
2,3 Dichloro 1,4 naphthoquinone—Phygon (Ex. 555, 787, 853).	Ex. 555	
Ferbam (Ex. 555, 710, 745)	Ex. 555	
Fluorine compounds—inorganic (Ex. 201, 699, 834).	Ex. 201, 699	
Lime (Ex. 513, 745)	Ex. 745	
Mercury compounds—inorganic (Ex. 155, 362, 507, 834).	Ex. 362, 507	
Mercury compounds—organic (Ex. 156, 787).	Ex. 156, 362	
Methoxychlor (Ex. 533, 762, 834, 887)	Ex. 834	
Nabam (Ex. 527, 555, 787)	Ex. 555	
Nicotine (Ex. 155, 201, 362, 834)	Ex. 201, 834	
Parathion (Ex. 527, 726, 834)	Ex. 527, 834	0.21 p. p. m. 7 days after application, 5 percent dust 75 lb./acre (Ex. 204). 0.1 p. p. m. 10 days after application (Ex. 898B II).
Pyrethrum (Ex. 155, 201, 507, 834)	Ex. 156, 362	
Rotenone (Ex. 155, 165, 201, 507, 834)	Ex. 834	
Sabadilla (Ex. 699, 834)	Ex. 699	
Sulfur (Ex. 787, 834)	Ex. 834	
TDE, DDD, Rhothane (Ex. 362, 533)	Ex. 362	
Tetrachlorobenzoquinone—Spergon (Ex. 527, 710, 787, 853).	To seedbed (Ex. 527, 555, 710).	
Tetraethyl pyrophosphate (Ex. 699, 733, 889).	Ex. 527, 699	
Thiram (Ex. 71, 745, 853)	Ex. 745, 853	
Toxaphene (Ex. 527)	Ex. 527	
Zinc compounds—inorganic (Ex. 472, 527, 787).	Ex. 527	
Zineb (Ex. 527, 555, 745, 787)	Ex. 555	
Ziram (Ex. 533, 555, 787)	Ex. 555	

CELERY

Benzene hexachloride (Ex. 699)		
Calcium arsenate (Ex. 834)	Ex. 834 (New Jersey)	0.43 p. p. m. As_2O_3 (Ex. 512).
Chlordane (R. 4097)		
Chloropicrin (Ex. 555, 787)	Ex. 555	
Copper compounds—inorganic (Ex. 156, 234, 507, 555, 834).	Ex. 156, 555	6–100 p. p. m. (Ex. 832). 6–15 p. p. m. (Ex. 892).
Copper-8-quinolinolate (Ex. 156)	Ex. 156	
DDT (Ex. 533, 834)	Ex. 834	1.4–2.5 p. p. m. (Ex. 334). 7.48–50.47 p. p. m. (Ex. 531).
2,3 Dichloro 1,4 naphthoquinone (Ex. 156)	Ex. 156	
Ethylene dibromide (Ex. 555, 787)	Ex. 555	
Ferbam (Ex. 533, 787)		
Formaldehyde (Ex. 476, 787)	Ex. 476	
Lead arsenate (Ex. 834)		
Lime (Ex. 71, 834)		
Mercury compounds—inorganic (Ex. 156, 473, 476, 745).	For seed treatment (Ex. 156, 473).	
Mercury compounds—organic (Ex. 787)		
Methyl bromide (Ex. 787)		
Nabam (Ex. 533, 787)	Ex. 476, 555	1.3–6.7 p. p. m. unwashed (Ex. 1010C). 0.72–4.0 p. p. m. washed (Ex. 1010C).
Nicotine (Ex. 533, 726, 834)		
Oil (Ex. 161)		
Parathion (Ex. 533, 726, 834)		0.13–1.38 p. p. m. 1–7 days after application (Ex. 531). 0–0.46 p. p. m. 3–20 days after application (Ex. 871). 0.05–0.40 p. p. m. 14–21 days after application (Ex. 898B II).
Pyrethrum (Ex. 71, 161, 726)		

[7] Before heads begin to form; Ex. 71, 201.

VEGETABLES—Continued

CELERY—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Rotenone (Ex. 161)		
Sabadilla (R. 2938)		
Sulfur (Ex. 834)		
Tetraethyl pyrophosphate (Ex. 533, 834)		
Thiram (Ex. 507, 533)		
Toxaphene (Ex. 533)		All data corrected for control: No residue after washing stalks when applied 2, 4, or 6 lb. per acre; 1.9 p. p. m. washed stalks 13 days after application 10 lb. per acre (Ex. 881). 8–20 p. p. m. on foliage unwashed, 10 lb. per acre (Ex. 881). None on unwashed stalks 2–6 lb. per acre (Ex. 881). 2.6 p. p. m. unwashed stalks 10 lb. per acre (Ex. 881).
Zinc compounds—inorganic (Ex. 507)		
Zineb (Ex. 156, 533, 834)	Ex. 156, 476, 555	
Ziram (Ex. 476)	Ex. 476	

CORN

Aldrin (Ex. 733)		
Benzene hexachloride (Ex. 733)		
Calcium arsenate (Ex. 201)		
Chlordane (Ex. 533, 733, 887, 889)		
Copper compounds—inorganic (Ex. 787)		
Copper arsenite (Ex. 533)		
DDT (Ex. 155, 533, 772, 834)		0.63–2.1 p. p. m. (kernels and cob) (Ex. 161). 0–0.4 p. p. m. (Ex. 205). 0–2.1 p. p. m., ears (Ex. 297). No residue at ear tip (Ex. 383). 0–3.7 p. p. m., grain (Ex. 642). 0.04–.08 p. p. m., kernels (Ex. 773). 0.08 p. p. m. (Ex. 878B II).
2,3 Dichloro 1,4 naphthoquinone Phygon (Ex. 156, 787).		
Ethylene dibromide (Ex. 887)		
Ferbam (R. 3310; Ex. 560)	Cob (Ex. 560)	
Fluorine compounds—inorganic (Ex. 160, 201).		
Lime (Ex. 787 (p. 103))		
Mercury compounds (Ex. 156, 787)		
Methoxychlor (Ex. 161, 533, 762, 887)		
Nabam (Ex. 787)		
Nicotine (Ex. 733; R. 4433)		
Oil (Ex. 219, 733, 834, 887)		
Parathion (Ex. 533, 751, 772, 834)		None (Ex. 384, 642, 1241). 0.01–0.06 p. p. m. 24–29 days after application (Ex. 871). 1 p. p. m. or less 8 days after application (Ex. 878). None 11 days after application (Ex. 878).
Piperonyl butoxide (Ex. 161)		
Pyrethrum (Ex. 161, 762)		No residue, 3 applications (Ex. 161).
Rotenone (Ex. 507, 726, 834)		
Ryania (Ex. 155, 507, 751, 772, 834)		
Sulfur (Ex. 787)		
TDE—DDD-Rhothane (Ex. 155, 699, 726, 834).		
Tetrachlorohenzoquinone—Spergon (Ex. 156, 473, 513, 533, 853, 854).		
Thiram (Ex. 156, 473, 507, 513, 533, 853)		
Toxaphene (Ex. 533, 733, 762, 887)		
Zineb (Ex. 560, 787; R. 3300, 3309-3310)		
Ziram (R. 3310)		

CUCUMBERS

Aliphatic thiocyanates (R. 698)		
Benzene hexachloride (Ex. 533, 733, 834)		
Calcium arsenate (Ex. 201, 507, 726)		
Calcium cyanide (Ex. 677–678, 698)		
Chlordane (Ex. 533, 733, 889)		
Copper compounds—inorganic (Ex. 156, 507, 513, 710, 825, 889).		Less than 1 p. p. m. (Ex. 892).
Copper-8-quinolinolate (Ex. 787)		

VEGETABLES—Continued

CUCUMBERS—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Copper-zinc-chromate complex (Ex. 787; R. 943).		
DDT (Ex. 201, 726, 834)		
2,3 Dichloro 1,4 naphthoquinone—Phygon (Ex. 787).		
Ferbam (Ex. 533, 787, 834)		
Fluorine compounds—inorganic (Ex. 533, 699, 733, 834, 889).		3.12–17.80 p. p. m. (Ex. 703).
Lime (Ex. 71, 507, 533, 726)		
Mercury compounds—organic—Semesan (Ex. 156, 473, 513, 854).		
Methoxychlor (Ex. 513, 699, 726, 834, 889)		
Methyl bromide (Ex. 476)		
Nabam (Ex. 533, 787)		
Naphthalene (R. 698)		
Nicotine (Ex. 201, 513, 533, 726, 834)		
Parachlorobenzenesulfonate (R. 698)		
Parathion (Ex. 533, 834)		Applied by aerosol: None (Ex. 1241); 0.2 p. p. m. 3 days after application, 0.62 p. p. m. 2 hrs. after application, 0.01 p. p. m. 7 days after application (Ex. 1244).
Pyrethrum (Ex. 726, 834, 889)		
Rotenone (Ex. 507, 699, 726, 834)		
Sabadilla (Ex. 699, 733, 834, 889)		
Sulfur (Ex. 854; R. 942)		
TDE (R. 1967)		
Tetrachlorobenzoquinone—Spergon (Ex. 71, 156, 473, 513, 854).		
Tetraethyl pyrophosphate (Ex. 533, 698, 726).		
Thiram (Ex. 71, 507, 533)		
Toxaphene (Ex. 726)		
Zinc compounds (R. 5007)		
Zineb (Ex. 156, 533, 825, 834)		0.3–3.9 p. p. m. (Ex. 1010B).
Ziram (Ex. 156, 513, 787, 825)		

CUCURBITS

Actidione (Ex. 787)		
Aldrin (R. 3156)		
Benzene hexachloride (Ex. 762; R. 1966)		
Calcium arsenate (Ex. 762; R 1856)		
Chloropicrin (Ex. 787)		
Copper compounds (Ex. 745, 834, 853)		
DDT (Ex. 751, 762; R. 1966)		
2,3 Dichloro 1,4 naphthoquinone—Phygon (R. 2644).		
Ethylene dibromide (Ex. 787)		
Ferbam (Ex. 787)		
Fluorine compounds (Ex. 762)		
Mercury compounds (organic) Semesan (Ex. 745, 853; R. 2644).		
Methoxychlor (Ex. 751, 762, 834)		
Nabam (Ex. 745)		
Nicotine (Ex. 762, 834)		
Parathion (Ex. 762; R. 1966, 3124)		
Pyrethrum (Ex. 155; R. 2086)		
Rotenone (Ex. 155 762, 834)		
Sabadilla (Ex. 751, 762, 834)		
Sulfur (Ex. 787)		
TDE—DDD—Rhothane (R. 1966–1967)		
Thiram (Ex. 745, 853; R. 2644)		
Zineb (Ex. 745, 787)		
Ziram (Ex. 155, 787; R. 2662)		

EGGPLANTS

Aramite (Ex. 762)		
BBC (Ex. 533)		
Bioquin—copper-8-quinolinolate (Ex. 156, 787).		
Calcium arsenate (Ex. 507, 834, 889)		
Chlordane (Ex. 726, 886, 889)		
Chloropicrin (Ex. 787)		
Copper (Ex. 156, 507, 699, 834)		

VEGETABLES—Continued

EGGPLANTS—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
DDT (Ex. 201, 507, 527, 726, 834)		
2,3 Dichloro 1,4 naphthoquinone—Phygon (Ex. 787, 853).		
Ethylene dibromide (Ex. 555, 787)		
Ferbam (Ex. 787)		
Fluorine compounds (Ex. 726, 834, 889)		
Formaldehyde (Ex. 513)		
Lead arsenate (Ex. 834)		
Lime (Ex. 507, 710, 834)		
Mercury compounds—organic (Ex. 156, 787).		
Methoxychlor (Ex. 762, 889)		
Methyl bromide (Ex. 787)		
Nabam (Ex. 555, 787, 889)		
Nicotine (Ex. 533, 834)		
Oil (Ex. 834)		
Parathion (Ex. 834)		
Rotenone (Ex. 507, 726, 834, 889)		
Sabadilla (Ex. 834)		
SR–406 [8]		0.8–7.2 p. p. m. (Ex. 1030D).
Sulfur (Ex. 533, 787, 834)		
TDE—DDD—Rhothane (Ex. 361, 726, 887).		
TEPP—Tetraethyl pyrophosphate (Ex. 527, 762, 834).		
Thiram (Ex. 473, 507, 513, 853)		
Toxaphene (Ex. 726)		
Zinc compounds—inorganic (Ex. 533, 787)		
Zineb (Ex. 555, 787, 889)		
Ziram (Ex. 156, 513, 787, 889)		

ENDIVE

Copper compounds—inorganic (R. 3310)		
Copper-8-quinolinolate (Ex. 156)		
DDT (Ex. 513)		
Mercury compounds—organic (Ex. 156, 787).		
Nabam (R. 3310)		
Parathion (Ex. 778)		
Pyrethrum (Ex. 513)		
Rotenone (Ex. 513)		
Sulfur (Ex. 513)		
Tetrachlorobenzoquinone (Ex. 156, 158, 473, 787).		
Tetraethyl pyrophosphate (Ex. 762)		
Thiram (Ex. 787)		
Zineb (R. 3310)		

ESCAROLE

Copper compounds—inorganic (R. 3310)		
Nabam (R. 3310)		
Parathion (Ex. 778)		
Tetrachlorobenzoquinone—Spergon (Ex. 533).		
Thiram (Ex. 533)		
Zineb (R. 3310)		

HORSERADISH

Calcium arsenate (Ex. 201)		
Copper compounds—inorganic (Ex. 787)		
DDT (Ex. 201)		
2,3 Dichloro 1,4 naphthoquinone (Ex. 787)		
Ferbam (Ex. 787)		
Fluorine compounds—inorganic (Ex. 201)		
Mercury compounds (organic)—Semesan (Ex. 787).		

[8] Not recommended but residue reported.

VEGETABLES—Continued

HORSERADISH—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Nabam (Ex. 787)		
Pyrethrum (Ex. 201)		
Rotenone (Ex. 201)		
Sulfur (Ex. 156, 787)		
Zinc compounds—inorganic (Ex. 787)		
Zineb (Ex. 787)		
Ziram (Ex. 787)		

KALE AND COLLARDS

Benzene hexachloride (Ex. 699, 762)		
Calcium arsenate (Ex. 71, 201, 733)		
Chlordane (Ex. 527, 889)		
Copper compounds (Ex. 787, 853, 889)		
Copper-8-quinolinolate (Ex. 156)		
Copper metallic dust—basic (Ex. 889)		
DDT (Ex. 201, 527, 699, 733, 834)		
2,3 Dichloro 1,4 naphthoquinone—Phygon (Ex. 787, 853).		
Ferbam (Ex. 710, 787; R. 3310)		
Fluorine compounds (Ex. 201, 699, 733, 889).		
Mercury compounds—inorganic (Ex. 156, 158, 473, 787).		
Mercury compounds (organic) (Ex. 156, 473, 507, 513).		
Methoxychlor (Ex. 762, 889)		
Nabam (Ex. 787; R. 3310)		
Nicotine (Ex. 201, 699, 733, 889)		
Parathion (Ex. 527, 699; R. 1945)		
Pyrethrum (Ex. 201, 733, 834)		
Rotenone (Ex. 201, 699, 733, 834, 889)		
Sabadilla (Ex. 733, 834, 889)		
Sulfur (Ex. 156, 834)		
TEPP (Ex. 699, 1946)		
Tetrachlorobenzoquinone (Ex. 71, 710, 834, 853).		
Thiram (Ex. 71, 787)		
Zinc compounds—inorganic (Ex. 787)		
Zineb (Ex. 156, 787; R. 3310)		
Ziram (Ex. 787; R. 3310)		

KOHLRABI

Benzene hexachloride (Ex. 762)	Ex. 762	
Calcium arsenate (Ex. 71)	Ex. 71	
Copper compounds—inorganic (Ex. 156, 787; R. 3310).	Ex. 156, 787	
Copper-8-quinolinolate (Ex. 156)	For seed treatment	
Copper-zinc-chromate (Ex. 787)	For seed treatment	
2,3, Dichloro 1,4 naphthoquinone (Ex. 787)	Ex. 787	
DDT (Ex. 762)	Ex. 762	
Ferbam (Ex. 472, 787; R. 3310)	Ex. 472, 787; R. 3310	
Fluorine compounds—inorganic (Ex. 71)	Ex. 71	
Mercury compounds—organic (Ex. 156, 473, 787).	For seed treatment	
Mercury compounds—inorganic (Ex. 156, 472, 473, 787).	For seed treatment	
Methoxychlor (Ex. 762)	Ex. 762	
Nabam (Ex. 787; R. 3310)	Ex. 787; R. 3310	
Nicotine (Ex. 71, 762)	Ex. 71, 762	
Pyrethrum (Ex. 71, 156, 762)	Ex. 71, 156, 762	
Rotenone (Ex. 71, 762)	Ex. 71, 762	
Spergon (Ex. 71, 156, 472, 787, 854)	Ex. 156, 787, 472; for use on plants in seedbed only.	
Sulfur (Ex. 156)	Ex. 156	
Thiram (Ex. 71, 787)	Ex. 787	
Zinc compounds—inorganic (Ex. 472, 787)	Ex. 472, 787	
Zineb (Ex. 156, 787; R. 3310)	Ex. 156, 787	
Ziram (Ex. 787; R. 3310)	Ex. 787	

VEGETABLES—Continued

LETTUCE

Name of pesticide	Reference to method of application	Range in quantity of residues
Benzene hexachloride (Ex. 886)		
Calcium cyanamide (Ex. 787)		
Chlordane (Ex. 161, 887; R. 3224)		
Copper (Ex. 156, 507, 555)		
Copper arsenite (R. 698)		
Copper compounds—inorganic (Ex. 156, 507, 555).		
Copper-8-quinolinolate (Ex. 156)		
DD mixture of dichloropropane and dichloropropene (Ex. 161, 787).		
DDT (Ex. 165, 733, 834, 887)		0.1–4.1 p. p. m. 2–24 days after application (Ex. 367). 5.42 p. p. m. 4 days after application, 6 applications market heads (Ex. 367). 0.31–66, 3 p. p. m. lower leaves (Ex. 367). 0.07 p. p. m. whole head (Ex. 898B II).
Ferbam (Ex. 710, 787)		
Fluorine compounds (Ex. 733, 887)		
Mercury compounds—inorganic (Ex. 156, 476, 787, 507).		
Methoxychlor (R. 4360)		0.05 p. p. m. whole plant (Ex. 898B II).
Nabam (Ex. 163, 787; R. 3224)		
Nicotine (Ex. 71; R. 677)		
Parathion (Ex. 413)		
Pyrethrum (Ex. 699, 726, 733, 834)		
Rotenone (Ex. 699, 733, 834)		
Sabadilla (Ex. 733)		
Sulfur (Ex. 787, 834)		
TDE (Ex. 512)		
Tetrachlorobenzoquinone Phygon (Ex. 787).		
Tetraethyl dithiopyrophosphate (R. 698)		
Tetraethyl pyrophosphate (Ex. 161, 834; R. 679).		
Thiram (Ex. 476, 533, 710)		
Toxaphene (R. 3164, 3224)		
Zinc compounds—inorganic (Ex. 156, 473)		
Zineb (Ex. 163, 555, 710, 745)		
Ziram (Ex. 163, 787)		

MUSHROOMS

DDT (R. 1839)	R. 1839	0.1–0.75 p. p. m. (Ex. 326, part 2).
Hydrogen cyanide (R. 491)	For use before casing (R. 491).	
Methoxychlor (Ex. 326; R. 1839)	Ex. 326	2.2–7.8 p. p. m. (Ex. 326, part 2). None to 7.8 p. p. m. (Ex. 1000C).
Nicotine (R. 491)	R. 491	
Pyrethrum (Ex. 326)	Ex. 326	
Sulfur (R. 1839)	For fumigation; R. 1839.	
TEPP (R. 685)	R. 685	

MUSTARD GREENS

Benzene hexachloride [9] (Ex. 699)	Ex. 699	
Chlordane	To seedbed; Ex. 529	
Copper compounds—inorganic (R. 3310)		
DDT [10] (Ex. 699, 886)	Ex. 699, 886	Ex. 886.
Ferbam (R. 3310)		
Fluorine compounds—inorganic (Ex. 699, 733).	For bait; Ex. 699; R. 493.	
Mercury compounds—organic	For seed treatment; Ex. 533, 787.	
Nabam (R. 3310)		
Nicotine (Ex. 699, 834)	Ex. 699, 834	
Parathion [9] (Ex. 699)	Ex. 699	
Rotenone (Ex. 699, 733, 834, 886; R. 493)	Ex. 699, 834, 886	
Sabadilla (Ex. 733; R. 493)		
Tetraethyl pyrophosphate (Ex. 699)	Ex. 699	
Thiram	For seed treatment; Ex. 787.	
Zineb (R. 3310)		

[9] Not to be used later than 3 weeks prior to harvest.
[10] Not to be used within 10 to 14 days of harvest.

VEGETABLES—Continued

OKRA

Name of pesticide	Reference to method of application	Range in quantity of residues
Benzene hexachloride (R. 3251)		
Chlordane (R. 3251)		
DD mixture (dichloropropane and dichloropropene).	As soil fumigant; Ex. 555.	
DDT (R. 3251)		
Ethylene dibromide	As soil fumigant; Ex. 555.	
Fluorine compounds—inorganic (Ex. 834)	Ex. 834	
Nicotine (Ex. 533, 699, 834)		
Parathion [11] (R. 3251)		
Sabadilla (Ex. 834)		
Tetraethyl pyrophosphate (Ex. 533; R. 3251).		
Toxaphene (Ex. 533; R. 3251)		

ONIONS

Name of pesticide	Reference to method of application	Range in quantity of residues
Benzene hexachloride (Ex. 156, 533, 886)		
Chlordane (Ex. 161, 726, 887; R. 3217)	For soil treatment; R. 3217.	
Chloropicrin (Ex. 787)	As soil fumigant; Ex. 787.	
Copper compounds—inorganic (Ex. 156, 263, 834).		
Copper-8-quinolinolate (Ex. 156)	For seed treatment (Ex. 156).	
DD mixture (Ex. 787)	As soil fumigant; Ex. 787.	
DDT (Ex. 155, 156, 161, 201, 533, 699, 726, 751, 834, 886, 887, 889; R. 1268, 2357, 3217).		On bulbs, average 25 plots less than 0.1 p. p. m.; maximum sample 0.2 p. p. m. (Ex. 367; R. 2358).
Ferbam (Ex. 156, 476, 787; R. 3310)	For seed treatment; Ex. 476.	
Formaldehyde (Ex. 71, 156, 201, 476, 513, 787).	For soil treatment; Ex. 71, 201.	
Lime-sulfur spray (Ex. 156, 163)		
Malachite (Ex. 234)		
Mercury compounds—inorganic (Ex. 71, 156, 201, 473, 787, 834).	For seed treatment (Ex. 71, 156). For seed treatment (Ex. 201).	
Mercury compounds—organic (Ex. 507, 787, 854).	For seedbed treatment; Ex. 507.	
Methyl bromide (Ex. 787)	As soil fumigant; Ex. 787.	
Nabam (Ex. 787; R. 3310)		
Nicotine (Ex. 71, 161, 263)		
Oil-petroleum spray (Ex. 834; R. 2357)	Applied during 1st 3 weeks when plants very small (R. 2357).	
Parathion (Ex. 834; R. 2358)		0.02–0.11 p. p. m. on bulbs grown in soil treated with parathion (Ex. 871).
Pyrethrum (Ex. 263)		
Rotenone (Ex. 726, 834; R. 2362)	N. Y. recommends rotenone as only insecticide to be used on onions to be harvested as green-bunching (R. 2362).	
Sabadilla (Ex. 834)		
Tartar emetic (Ex. 71, 263, 699, 834)	Not to apply if to be used as green onions (Ex. 263).	
Tetrachlorobenzoquinone (Ex. 854)	For seed treatment (Ex. 854).	
Tetraethyl pyrophosphate (Ex. 834)	May be applied to onions used as green-bunching (Ex. 834).	
Thiram (Ex. 156, 473, 476, 507, 513, 726, 787, 834).	For seed treatment (Ex. 156, 473).	
Toxaphene (Ex. 834, 887; R. 3217)		
Zinc compounds—inorganic (Ex. 886)		
Zineb (Ex. 156, 234, 745, 886; R. 3310)		
Ziram (R. 3310)		

[11] Until 30 days before harvest.

VEGETABLES—Continued

PARSLEY

Name of pesticide	Reference to method of application	Range in quantity of residues
Copper compounds—inorganic (Ex. 156, 854).	For seed treatment; Ex. 854.	
2,3 Dichloro 1,4 naphthoquinone		
Mercury compounds—organic (Ex. 156, 158, 473, 787, 854).	For seed treatment; Ex. 156, 158, 473, 787, 854.	
Nicotine (Ex. 834)	Ex. 834	
Rotenone (Ex. 834)	Ex. 834	
Tetrachlorobenzoquinone (Ex. 156, 158, 473, 787, 854).	For seed treatment; Ex. 156, 158, 473, 787, 854.	
Thiram (Ex. 156, 787)	For seed treatment (Ex. 156, 787).	
Zineb (Ex. 156)		

PARSNIPS

Name of pesticide	Reference to method of application	Range in quantity of residues
Copper compounds—inorganic (Ex. 507, 834, 854).	For seed treatment (Ex. 507, 854).	
DDT (R. 1268)		
Mercury compounds—inorganic (Ex. 71)		
Mercury compounds—organic (Ex. 158, 473, 507, 787, 854).	For seed treatment; Ex. 158, 473, 507, 787, 854.	
Nicotine (Ex. 726)		
Parathion (Ex. 726)		
Pyrethrum (Ex. 726)		
Tetrachlorobenzoquinone (Ex. 158, 473, 787, 854).	For seed treatment; Ex. 158, 473, 787, 854.	
Thiram (Ex. 787)	For seed treatment; Ex. 787.	
Zinc, compounds—inorganic (Ex. 507)	For seed treatment; Ex. 507.	

PEANUTS

Name of pesticide	Reference to method of application	Range in quantity of residues
Benzene hexachloride (Ex. 733)		
Chlordane (Ex. 733)		
Copper (Ex. 160, 733, 787)		
DDT (Ex. 160, 533, 699, 733)		
2,3 Dichloro 1,4 naphthoquinone (Ex. 787)		
Ferbam (Ex. 787)		
Fluorine compounds (Ex. 160, 533, 699)		
Mercury compounds-organic (Ex. 733, 787, 853).	For seed treatment; Ex. 787.	
Nabam (Ex. 787)		
Parathion (Ex. 869)		
Spergon (Ex. 787, 853)	For seed treatment; Ex. 853.	
Sulfur (Ex. 160, 533, 733, 787)		
Thiram (Ex. 787, 853)	For seed treatment; Ex. 787, 853.	
Toxaphene (Ex. 699, 733)		
Zinc 2,4,5 trichlorophenate (Ex. 733, 787, 853).	For seed treatment; Ex. 787, 853.	
Zineb (Ex. 787)		
Ziram (Ex. 787)		

PEAS—ENGLISH PEAS, COWPEAS

Name of pesticide	Reference to method of application	Range in quantity of residues
Benzene hexachloride (Ex. 533, 762, 886; R. 3224, 4278).	Ex. 533, 886	
Chlordane (Ex. 834, 886, 889)	For soil treatment; Ex. 834.	
Copper compounds—inorganic (Ex. 787, 853, 854).	Ex. 787	
DD mixture (Ex. 555, 726)	As soil fumigant; Ex. 555, 726.	
DDT (Ex. 155, 156, 165, 201, 529, 699, 726, 733, 762, 834, 886, 887, 889; R. 494, 1269, 3216, 3224, 4278).	Ex. 201 and others	No residue (Ex. 161). Less than 1 p. p. m. on pods and on peas (Ex. 382). On shelled peas, dry weight, 0.41 p. p. m. (Ex. 512).

VEGETABLES—Continued

PEAS—ENGLISH PEAS, COWPEAS—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
2,3 dichloro 1,4 naphthoquinone (Ex. 507, 787, 853; R. 4856).	For seed treatment; Ex. 507, R. 4856.	
Ethylene dibromide (Ex. 555, 726; R. 494)	As soil fumigant; Ex. 555, 726.	
Ferbam (R. 3310)		
Fluorine compounds (Ex. 699, 834, 889; R. 494).	Ex. 699	
Mercury compounds—inorganic (Ex. 787)	For seed treatment; Ex. 787.	
Mercury compounds—organic (Ex. 156, 473, 507, 787, 853, 854).	For seed treatment; Ex. 156.	
Methoxychlor (Ex. 165; R. 1269)	Ex. 165	
Nabam (Ex. 787, 827; R. 3310)		
Nicotine (Ex. 201, 507, 513, 726, 834; R. 494)	Ex. 201 and others	
Parathion (Ex. 529, 533, 762, 834; R. 3216, 3224).	Ex. 529, 533, 834	0.3 p. p. m. or less 1 or more days after application (Ex. 382). No residue 19 days after use (Ex. 512). No evidence of translocation (Ex. 512). Not to be used later than 30 days before harvest (Ex. 533).
Polyethylene polysulfide (Ex. 787)		
Rotenone (Ex. 155, 156, 165, 513, 699, 726, 733, 834, 887; R. 494, 1269, 4278).	Ex. 165 and others	
Sabadilla (Ex. 834)	Ex. 834	
Sulfur (Ex. 155, 156, 165, 507, 513, 533, 699, 787, 834, 854, 886, 889; R. 494, 3310).	Ex. 155 and others.	
TDE (R. 3216, 4278)	R. 4278	
Tetrachlorobenzoquinone (Ex. 156, 473, 473, 507, 513, 533, 555, 787, 853, 854).	For seed treatment; Ex. 155 and others.	
Tetraethyl pyrophosphate (Ex. 165, 726, 834; R. 3224).		
Thiram (Ex. 156, 473, 507, 533, 555, 787)	For seed treatment; Ex. 473.	
Toxaphene (R. 3216, 3224)		
Zineb (Ex. 787, 889; R. 3310)	Ex. 889	
Ziram (Ex. 787)		

PEPPERS

Benzene hexachloride (Ex. 886; R. 3219)		
Calcium arsenate (Ex. 834, 889)	Ex. 834	
Chlordane (Ex. 886, 889; R. 3218)	For soil treatment; R. 3218.	
Copper compounds—inorganic (Ex. 156, 513, 533, 555, 710, 745, 787, 834, 853, 854).		
Copper-8-quinolinolate (Ex. 156)	For seed treatment; Ex. 156.	
DD mixture (Ex. 555)	For seedbed treatment; Ex. 555.	
DDT (Ex. 361, 533, 726, 834, 886, 889; R. 3218).	Ex. 361, 533	
2,3 Dichloro 1,4 naphthoquinone (Ex. 787, 853).	For seed treatment; Ex. 787.	
Ethylene dibromide (Ex. 555)	For seedbed treatment; Ex. 555.	
Ferbam (Ex. 787)		
Fluorine compounds (Ex. 533, 889)	Ex. 533	
Formaldehyde (Ex. 513)		
Lead arsenate (Ex. 834)	Ex. 834	
Lime (Ex. 473)	For seed treatment; Ex. 473.	
Mercury compounds—organic (Ex. 156, 473, 507, 513, 533, 710, 787, 853, 854).	For seed treatment; Ex. 156, 473.	
Mercury compounds—inorganic (Ex. 156, 473, 513, 710, 787).	For seed treatment; Ex. 156, 473.	
Methoxychlor (Ex. 762, 889)	Ex. 762	
Nabam (Ex. 787)	Ex. 533	
Nicotine (Ex. 513, 533, 699, 834)	Ex. 533	
Parathion (Ex. 533, 834; R. 3158, 3219)	R. 3158	Not to be used later than 30 days before harvest (Ex. 533). No residue (Ex. 871).
Rotenone (Ex. 361, 513, 726, 834, 889)	Ex. 361	
Sabadilla (Ex. 834)	Ex. 834	
Sulfur (Ex. 513, 787)		

VEGETABLES—Continued

PEPPERS—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
TDE (Ex. 361, 726, 889)	Ex. 361	
TEPP (Ex. 762, 834; R. 3219, 3158)	R. 3158	
Tetrachlorobenzoquinone (Ex. 787, 853, 854).	For seed treatment; Ex. 787.	
Thiram (Ex. 507, 513, 787, 853)	For seed treatment; Ex. 507.	
Toxaphene (R. 3158, 3219)	For bait	
Zinc salts (Ex. 533)	Ex. 533	
Zineb (Ex. 533, 745, 787, 889)	Ex. 533	
Ziram (Ex. 156, 533, 787, 889)	Ex. 533	

POTATOES, WHITE

Aldrin (Ex. 409; R. 1870, 2351, 4340)	Soil treatment; Ex. 409.	
Arsenicals—paris green, calcium arsenate (Ex. 71, 201, 512, 513, 726, 834, 835; R. 1268).		
Calcium cyanide (R. 2351)	As fumigant; R. 2351	
Carbon disulfide (R. 2351)	As fumigant; R. 2351	
Chlordane (Ex. 409, 512, 533, 545, 887; R. 4340).		Tubers from chlordane-treated soil, 0.12 p. p. m. (Ex. 898).
Copper compounds—inorganic (Ex. 71, 156, 160, 488, 513, 710, 745, 751, 787, 825, 834, 886, 889).		
Copper-zinc-chromate complex (Ex. 234, 488, 512, 513, 787).		Within limits of experimental error, treated potatoes had no more Cu, Zn, or Cr than untreated (Ex. 865).
DD mixture (Ex. 726; R. 2351)	As fumigant; Ex. 726; R. 2351.	
DDT (Ex. 160, 165, 201, 512, 513, 533, 545, 699, 726, 751, 762, 834, 887, 889; R. 1268, 2003, 2347).		No trace on tubers when foliage received 3 percent DDT dusting schedule (Ex. 898).
Dichlorobutane (Ex. 489)	For soil treatment; Ex. 489.	
Dichlorodiphenyl ethane (Ex. 787)		
2,3 Dichloro 1,4 naphthoquinone (Ex. 489, 787).	For seed treatment; Ex. 787.	
β,β Dithiocyano diethyl ether (Ex. 834)		
Ethylene dibromide (Ex. 489, 512, 726, 834; R. 2351).	As fumigant; R. 2351	
Ferbam (Ex. 787)		
Fluorine compounds—inorganic (Ex. 71, 699, 834).		
Formaldehyde (Ex. 488, 533, 787; R. 3340)	As fumigant; R. 3340	
Heptachlor (Ex. 409; R. 2351)	Soil treatment; Ex. 409	
Lead arsenate (Ex. 835)		
Lime (Ex. 488, 834)		
Mercury compounds—inorganic (Ex. 156, 488, 533, 745, 787).	For seed treatment; Ex. 156.	
Mercury compounds—organic (Ex. 488, 745, 787, 834, 853).	For seed treatment; Ex. 488.	
Methoxychlor (Ex. 762)		
Methyl bromide (Ex. 489)	As fumigant; Ex. 489	
Nabam (Ex. 156, 488, 512, 513, 533, 745, 787, 825, 834, 886, 889).		
Nicotine (Ex. 160, 512, 513, 533, 726, 834)		
Parathion (Ex. 512, 545, 726, 751, 834; R. 2349).		0.10–0.13 p. p. m. residue tubers from parathion-treated soil (Ex. 297). No residue found in canned potatoes from parathion-treated crop (Ex. 761). 0.04–0.10 p. p. m. in tubers from parathion-treated soil (Ex. 871). 0.013 p. p. m. residue on tubers, parathion used as soil treatment (Ex. 898).
Pyrethrum (Ex. 71, 726)		
Rotenone (Ex. 71, 160, 726; R. 1268)		
Sulfur (Ex. 71, 165, 488, 787, 834, 887)		
TDE (R. 2003)		
Tetrachloroparabenzoquinone—Chloranil (Ex. 787).		
Tetraethyl pyrophosphate (Ex. 165, 533, 545, 751).		
Thiram (Ex. 787)	For seed treatment; Ex. 787.	

VEGETABLES—Continued

POTATOES, WHITE—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Toxaphene (Ex. 545, 726, 762)		0.02 p. p. m. in tubers from toxaphene-treated soil (Ex. 898).
Trichlorophenol (Ex. 489)	For seed treatment; Ex. 489.	
Zinc compounds—inorganic (Ex. 160, 488, 834, 886).		
Zineb (Ex. 156, 488, 513, 533, 710, 745, 787, 825, 834, 886, 889).		
Ziram (Ex. 156, 488, 787, 834)		

PUMPKINS

Benzene hexychloride (Ex. 512)		
Calcium arsenate (Ex. 71)		
Chloranil—tetrachloroparabenzoquinone (Ex. 156, 473, 513, 787).	For seed treatment; Ex. 156.	
Copper compounds (Ex. 156, 157, 507, 787; R. 3310).		
Copper-8-quinolinolate (Ex. 787)		
Copper-zinc-chromate complex (Ex. 787)		
DDT (Ex. 156, 365, 834)		
2,3 Dichloro 1,4 naphthoquinone (Ex. 156, 787).	For seed treatment; Ex. 156.	
Ferbam (Ex. 787, 834; R. 3310)		
Fluorine compounds (Ex. 71, 834)		
Mercury compounds (Ex. 473, 507, 513, 787).	For seed treatment; Ex. 473.	
Methoxychlor (Ex. 365, 834)		
Nabam (Ex. 787; R. 3310)		
Nicotine (Ex. 71, 834)		
Parathion (Ex. 365)		
Pyrethrum (Ex. 156, 365)		
Rotenone (Ex. 71, 156, 365, 834)		
Sabadilla (Ex. 834)		
TDE (Ex. 528)		
Thiram (Ex. 156, 507, 787)	For seed treatment (Ex. 156, 507).	
Zineb (Ex. 156, 787, 834; R. 3310)		
Ziram (Ex. 156, 157, 787, 834; R. 3310)		

RADISHES

Benzene hexachloride (Ex. 533)		
Chloranil (Ex. 156, 787, 854; R. 3310)	For seed treatment; Ex. 854.	
Chlordane (Ex. 887)		
Copper compounds (Ex. 745, 787)		
DDT (Ex. 155, 699, 834, 887; R. 3324)		
2,3 Dichloro 1,4 naphthoquinone (Ex. 156, 787; R. 3310).	For seed treatment; Ex. 156, 787.	
Ferbam (Ex. 745)		
Fluorine compounds (Ex. 71)		
Mercury compounds (Ex. 71, 155, 158, 362, 473, 507, 513, 787, 854).	For seed treatment; Ex. 155, 473.	
Methoxychlor (Ex. 887)		
Nabam (Ex. 787; R. 3310)		
Nicotine (Ex. 155, 834, 887)		
Parathion (Ex. 834; R. 3224)		0.02 p. p. m. in radishes 36 days old from parathion-treated soil (soil treated 85 days prior to planting) (Ex. 871).
Pyrethrum (Ex. 155)		
Rotenone (Ex. 71, 155, 362, 699, 834, 887)		
Tetraethyl pyrophosphate (R. 3224)		
TDE (Ex. 327)		
Thiram (Ex. 156, 513, 878)	For seed treatment; Ex. 156, 513.	
Toxaphene (R. 3224)		
Zinc compounds (Ex. 158, 787)	For seed treatment; Ex. 787.	
Zineb (Ex. 745, 787; R. 3310)		
Ziram (Ex. 787)		

VEGETABLES—Continued

RUTABAGAS

Name of pesticide	Reference to method of application	Range in quantity of residues
Chloranil—tetrachloroparabenzoquinone (Ex. 854).	For seed treatment; Ex. 854.	
Chlordane (R. 1848)		
DDT (R. 1848)		
Mercury compounds (Ex. 158, 473, 513, 854).	For seed treatment; Ex. 158.	
Sulfur (Ex. 163)		
Tetraethyl pyrophosphate (Ex. 762)		

SALSIFY

Chloranil (Ex. 158, 473)	For seed treatment; Ex. 158, 473.	
Copper compounds (Ex. 156, 787)		
Mercury compounds (Ex. 158, 473)	For seed treatment; Ex. 158, 473.	
2,3 Dichloro 1,4 naphthoquinone (Ex. 787)		
Zineb (Ex. 787)		

SPINACH

Benzene hexachloride (Ex. 699)	Ex. 699	
Calcium arsenate (R. 2940)	R. 2940	Apply only early while plants small and follow with rotenone or pyrethrum to avoid residues (R. 2940).
Chloranil—tetrachloroparabenzoquinone (Ex. 71, 156, 787, 853, 854).	For seed treatment; Ex. 71, 156.	
Chloropicrin (Ex. 787)	As fumigant: Ex. 787.	
Copper compounds—inorganic (Ex. 156, 473, 507, 787, 853, 854; R. 2644, 3310).	For seed treatment; Ex. 2644, 3310.	
Cupric-gamma-chloroacetoacetanilide (Ex. 787).	For seed treatment; Ex. 787.	
DD mixture (Ex. 787)	For soil treatment; Ex. 787.	
DDT (Ex. 886; R. 2940)	Ex. 886; R. 2940	Do not apply within 10–14 days of harvest; Ex. 886. Apply only early while plants small and follow with rotenone or pyrethrum to avoid residue; R. 2940.
2,3 Dichloro 1,4 naphthoquinone (Ex. 156, 787, 853; R. 2644).	For seed treatment; Ex. 156, R. 2644.	2.6 to 4.0 p. p. m.; Ex. 285.
Ethylene dibromide (Ex. 787)	For soil treatment; Ex. 787.	
Ferbam (R. 3310)	For seed treatment; R. 3310.	
Fluorine compounds (Ex. 71; R. 4203)	As bait; R. 4203	
Lime (Ex. 513; R. 1936)	Ex. 513; R. 1936	
Mercury compounds (Ex. 473, 507, 787, 853, 854).	For seed treatment; Ex. 473.	
Methoxychlor (R. 1933–1934; Ex. 337)		
Methyl bromide (Ex. 787)	For soil treatment; Ex. 787.	
Nabam (Ex. 787; R. 3310)	For seed treatment; R. 3310.	
Nicotine (Ex. 71, 156, 161, 201, 364, 513, 699, 834; R. 1936).	R. 1936	Before washing, 17.4 to 51 p. p. m. After washing and blanching, 1.6 to 5.1 p. p. m. (Ex. 285).
Parathion (R. 1934)	R. 1934	Applied 1 week before harvest; residue before processing 0.05–0.46 p. p. m. (Ex. 898B).
Pyrethrum (Ex. 201, 513, 834; R. 1932)	R. 1932	
Rotenone (Ex. 71, 699, 834)	Ex. 71	
Sulfur (Ex. 834)	Ex. 834	
TDE (Ex. 533)	Ex. 533	
Tetraethyl pyrophosphate (Ex. 161, 364)	Ex. 161, 364	
Thiram (Ex. 156, 158, 473, 507, 513, 787, 853; R. 2644).	For seed treatment; R. 2644.	
Zinc compounds—inorganic (Ex. 158, 473, 513, 787).	For seed treatment; Ex. 158.	
Zineb (R. 958; Ex. 555)		
Ziram (R. 950–951)		

VEGETABLES—Continued

SPINACH—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Zineb (Ex. 555, 787; R. 3310)	For seed treatment; Ex. 3310.	
Ziram (R. 3310)	For seed treatment; R. 3310.	

SQUASH

Benzene hexachloride (Ex. 533; R. 3157)		
Calcium arsenate (Ex. 71, 201, 726; R. 4095).		
Chloranil (Ex. 156, 158, 472, 473, 513, 787)	For seed treatment; Ex. 156.	
Chlordane (Ex. 156, 533, 887, 889)		
Copper compounds (Ex. 156, 157, 234, 472, 507, 726, 787, 889).		
Copper-8-quinolinolate (Ex. 787)		
Copper-zinc-chromate complex (Ex. 787)		
DD Mixture (Ex. 555)	As fumigant; Ex. 555.	
DDT (Ex. 156, 165, 201, 365, 834; R. 1968)		
2,3, Dichloro 1,4 naphthoquinone (Ex. 156, 507, 787).	For seed treatment; Ex. 156, 507.	
Ethylene dibromide (Ex. 555)	As fumigant; Ex. 555.	
Ferbam (Ex. 472, 533, 787, 834)		
Fluorine compounds (Ex. 71, 533, 699, 726, 834, 889; R. 4095).		Cryolite 9.50 to 9.71 p. p. m. immediately after dusting; 2.42 to 2.91 p. p. m. 5 days later; barium fluosilicate 10.68 to 12.13 p. p. m. immediately after dusting; 4.17 to 4.21 p. p. m. 5 days later; (Ex. 703).
Mercury compounds (Ex. 158, 472, 473, 507, 513, 710, 787).	For seed treatment; Ex. 158.	
Methoxychlor (Ex. 365, 726, 834, 887, 889)		
Nabam (Ex. 533, 555, 787)		
Nicotine (Ex. 71, 201, 533, 699, 726, 834; R. 4094).		
Parathion (Ex. 365, 533, 834; R. 1968, 3157)		
Pyrethrum (Ex. 365, 726, 834, 887, 889)		
Rotenone (Ex. 71, 365, 699, 726, 834, 889; R. 4095).		
Sabadilla (Ex. 105, 201, 699, 726, 834, 889; R. 4095).	R. 4094	
Sulfur (Ex. 157, 472, 886)		
TDE (Ex. 528)		
Tetraethyl pyrophosphate (Ex. 533, 726; R. 3157, 4094).		
Thiram (Ex. 156, 507, 787)	For seed treatment; Ex. 156, 507.	
Zinc 2,4,5 trichlorophenate (Ex. 787)	For seed treatment; Ex. 787.	
Zineb (Ex. 156, 472, 533, 555, 787, 834, 889)		
Ziram (Ex. 156, 157, 472, 787, 834)		

SWEETPOTATOES

Calcium arsenate (Ex. 71, 834)	To spray or dust foliage; Ex. 71, 834.	
Chloranil—tetrachloroparabenzoquinone (Ex. 156, 745, 787).	To treat seed roots and dip sprouts before setting out; Ex. 156.	
DDT (Ex. 699)	To spray or dust on foliage; Ex. 699.	
2,3 Dichloro 1,4 naphthoquinone (Ex. 156, 787).	To treat seed roots and dip sprouts; Ex. 156, 787.	
Ferbam (Ex. 156, 573, 787; R. 2907)	To treat soil in seed bed and/or dip seed roots and/or sprouts; R. 2907.	
Fluorine compounds (Ex. 71)	To dust foliage; Ex. 71.	
Formaldehyde (Ex. 787)	To treat seed roots, dip sprouts; Ex. 787.	
Lead arsenate (Ex. 834)	To dip sprouts, spray or dust foliage; Ex. 834.	

VEGETABLES—Continued

SWEETPOTATOES—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Lime (Ex. 834)	To use with arsenicals for foliage dust; Ex. 834.	
Mercury compounds (Ex. 156, 513, 710, 745, 787; R. 2907).	To treat seed roots, dip sprouts; R. 2907.	
Nabam (Ex. 787)	To treat seed roots, dip sprouts; Ex. 727.	
Rotenone (Ex. 156)	To spray or dust foliage; Ex. 156.	
Sulfur (Ex. 787; R. 2909)	As soil treatment in fields to lower pH; R. 2909.	
Thiram (Ex. 513, 787; R. 2907)	To treat seed roots; Ex. 787.	
Zineb (Ex. 787)	To treat seed roots; Ex. 787.	
Ziram (Ex. 513, 787)	To treat seed roots; Ex. 513.	

SWISS CHARD

Benzene hexachloride (Ex. 699)	Ex. 699	Not to be applied later than 3 weeks to harvest (Ex. 699).
Chloranil—tetrachloroparabenzoquinone (Ex. 156, 787).	For seed treatment; Ex. 156, 787.	
Copper compounds (Ex. 71, 156, 473, 507, 787).	Ex. 787	
DDT (R. 1282-1283)		
2,3 Dichloro 1,4 naphthoquinone (Ex. 156, 507, 787).	Ex. 787	
Mercury compounds (Ex. 156, 473, 507, 513, 787).	For seed treatment; Ex. 507, 513, 787.	
Nicotine (Ex. 156, 364, 699; R. 2087)	Ex. 156; R. 2087	
Parathion (Ex. 699)	Ex. 699	Not to be applied later than 3 weeks to harvest (Ex. 699).
Rotenone (Ex. 71, 699)	Ex. 71, 699	
TDE (Ex. 512)		
Tetraethyl pyrophosphate (Ex. 364, 699)	Ex. 364, 699	
Thiram (Ex. 156, 473, 507, 513, 787)	For seed treatment; Ex. 507, 513, 787.	
Zinc compounds (Ex. 787)	For seed treatment; Ex. 787.	
Zineb (Ex. 787)	Ex. 787	

TOMATOES

Aldrin (R. 3257)		0.54 to 0.86 p. p. m. (Ex. 903).
Allyl bromide (Ex. 787)	For soil treatment; Ex. 787.	
Arsenate of calcium (Ex. 71, 161, 201, 331, 332, 507, 513, 726, 834, 889; R. 3257.	R. 3257	(As As_2O_3) 1.0 p. p. m. (Ex. 161). 1.0 to 8.0 p. p. m. unwashed (Ex. 275, 278, 285). 0.1 to 0.56 p. p. m. washed (Ex. 275, 278, 285).
Arsenate of copper (Ex. 834, R. 698	R. 698	
Arsenate of lead (Ex. 513, 834)	Ex. 513	(As Pb) Unwashed 0.7 to 6.7 p. p. m. (Ex. 275). (As Pb) Washed 0.1 to 0.7 p. p. m. (Ex. 275).
Benzene hexachloride (Ex. 377, 533, 545; R. 675, 698).	R. 675	0.1 p. p. m. from soil treatment (Ex. 285). 0.1 p. p. m. from soil treatment (Ex. 297).
Calcium cyanamide (Ex. 555, 787)	For soil treatment; Ex. 555.	
Calcium cyanide (R. 676, 687, 698)	As greenhouse fumigant; R. 698.	
Chloranil (Ex. 71, 156, 533, 745, 787, 853)	For seed treatment; Ex. 533, 853.	
Chlordane (Ex. 161, 533, 545, 834, 886, 887, 889; R. 3257).[12]	Ex. 834	
Parachlorophenoxyacetic acid (Ex. 159)	As plant stimulant to promote fruit set; Ex. 159.	
Parachlorophenyl parachlorobenzene sulfonate (R. 698).		
Chloropicrin (Ex. 745, 787)	For soil treatment; Ex. 787.	

[12] Not to be applied to tomatoes within 30 days of harvest. (Ex. 834.) Not to be used within 10 to 14 days of harvest. (Ex. 886.) Used on soil around plants. (Ex. 887.)

VEGETABLES—Continued

TOMATOES—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Copper compounds—inorganic (Ex. 71, 156, 163, 234, 507, 513, 533, 555, 710, 733, 745, 787, 814, 834, 853, 886, 887, 889; R. 941, 2994).	Ex. 71	(As Cu) 0.19 to 3.14 p. p. m. (Ex. 577). (As Cu) 1 p. p. m. (Ex. 892).
Copper-8-quinolinolate (Ex. 787)	Ex. 787	
Copper-zinc-chromate complex (Ex. 787; R. 943).	Ex. 787	
DD Mixture (Ex. 331, 555, 745, 787)	For soil treatment; Ex. 331.	
DDT [13] (Ex. 156, 161, 201, 331, 332, 533, 545, 699, 726, 733, 762, 834, 886, 887, 889; R. 492, 495, 675, 689, 698, 3257).	R. 492	No residue (Ex. 161). 1.8 p. p. m. (Ex. 205). 0.1 to 1.7 p. p. m. unwashed (Ex. 277, 278, 285). 0 to 0.8 p. p. m. washed (Ex. 277, 278, 285). 0.2 to 1.4 p. p. m. (Ex. 297). 0.1 p. p. m. (Ex. 376). 0.13 to 1.04 p. p. m. (Ex. 531). 0 to 1.8 p. p. m. (Ex. 898). 0.5 to 1.05 p. p. m. (Ex. 1244).
2,3 Dichloro 1,4 naphthoquinone (Ex. 156, 555, 787, 853; R. 2453, 2995).	Ex. 787	0.023–1.43 p. p. m. (Ex. 1257).
Ethylene dibromide (Ex. 331, 555, 745, 787)	For soil treatment; Ex. 331, 787.	
Ferbam (Ex. 163, 745, 787; R. 943, 2995)	Ex. 787	
Fluorine compounds (Ex. 71, 161, 201, 332, 699, 834, 889).	Ex. 71	No residue, as F from Cryolite (Ex. 161). 0.7 to 15 p. p. m. as F, unwashed (Ex. 275). 0.1 to 0.7 p. p. m. washed (Ex. 275).
Formaldehyde (Ex. 787)	For soil treatment; Ex. 787.	0.7 to 15 p. p. m. as F, unwashed; 0.1 to 0.7 p. p. m. as F, washed (Ex. 275).
Manganese ethylenebisdithiocarbamate (Ex. 787).	Ex. 787	
Mercury compounds (Ex. 71, 473, 507, 513, 745, 787).	For seed treatment; Ex. 787.	
Methoxychlor [14] (Ex. 762, 834, 853, 886, 889; R. 3257).	R. 3257	0.2 to 1.0 p. p. m. unwashed (Ex. 278). 0.1 to 0.8 p. p. m. washed (Ex. 278). 0.08 to 2.0 p. p. m. (Ex. 1006).
Methyl bromide (Ex. 476, 787)	For soil treatment; Ex. 476, 787.	
Nabam (Ex. 156, 513, 533, 555, 787, 834, 889; R. 2995).	Ex. 787	0.1 to 5.3 p. p. m. (Ex. 1010).
Nicotine (Ex. 71, 156, 331, 377, 513, 699, 834; R. 678, 685, 698, 2453).	Ex. 71	
Parathion [15] (Ex. 377, 533, 545, 787, 834; R. 675, 685, 698, 2453, 3257).	R. 698	Less than 0.01 p. p. m. (Ex. 376). 0.1 to 1.57 p. p. m. sampled same day applied. (Ex. 377). 0.01 p. p. m. sampled 15 days later. (Ex. 377). 0 to 1.5 p. p. m. (Ex. 531). 0.4 p. p. m. (Ex. 642). 0 to 0.14 p. p. m. (Ex. 871). 0.68 to 2.51 p. p. m. sampled within 3 days after application. (Ex. 1244). 0.14 to 0.83 p. p. m. sampled 12 or more days after application. (Ex. 1244).
Pyrethrum (Ex. 201, 331, 886)	Ex. 201	
Rotenone (Ex. 71, 156, 507, 513, 726, 834, 887, 889; R. 698).	Ex. 71	
Sabadilla (Ex. 533, 834)	Ex. 533, 834	
Sulfur (Ex. 161, 331, 332, 787, 834, 886, 887; R. 492, 698).	Ex. 787	Ex. 161.
TDE (Ex. 161, 331, 332, 545, 726, 733, 886, 889; R. 685, 3257).	Ex. 685	1.4 p. p. m. (Ex. 161). Unwashed 1.0 to 1.3 p. p. m. (Ex. 277, 278, 285). Washed 0.1 to 0.5 p. p. m. (Ex. 277, 278, 285). 0.15 to 1.42 p. p. m. (Ex. 297).
Tetraethyl dithiopyrophosphate (R. 681, 698).	R. 681, 698	0.01 to 0.04 p. p. m. (Ex. 1244).
Tetraethyl pyrophosphate (Ex. 762, 834; R. 495, 681, 698).	Ex. 834	
Thiram (Ex. 71, 156, 473, 507, 513, 745, 787, 853).	For seed treatment; Ex. 473, 507, 853.	
Toxaphene [16] (Ex. 161, 533, 545, 762, 834; R. 3257).	R. 3257	0.2 to 4.4 p. p. m. unwashed (Ex. 278). 0.2 to 1.9 p. p. m. washed (Ex. 278). 0 to 1.2 p. p. m. (Ex. 546).

[13] Not to be applied to edible portion later than 30 days prior to harvest (Ex. 834); not to be dusted within 10 days of harvest (Ex. 887).

[14] Not to be applied to edible portion later than 30 days prior to harvest (Ex. 834).

[15] Not to be applied within 30 days of harvest. (R. 3257 and Ex. 834). Treatment with parathion to be made only before first fruit sets. (Ex. 377)

[16] Should not be applied within 30 days of harvest. (Ex. 834)

VEGETABLES—Continued

TOMATOES—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Zinc compounds (Ex. 156, 513, 533, 787)	Ex. 156	
Zinc 2,4,5, trichlorophenate (Ex. 787)	For seed treatment; (Ex. 787).	
Zineb (Ex. 156, 513, 533, 555, 733, 745, 787, 814, 834, 886, 889; R. 2995).	Ex. 156, 513	0 to 1.7 p. p. m. (Ex. 1010).
Ziram (Ex. 156, 513, 745, 787, 814, 834, 889; R. 2995).	Ex. 513; R. 2995	0.13 to 2.4 p. p. m. (Ex. 1009).

TURNIPS

Benzene hexachloride (Ex. 362, 533, 699)		Not to be used closer than 3 weeks to harvest. (Ex. 699).
Calcium arsenate (Ex. 71)		
Chloranil (Ex. 156, 787, 853, 854)	For seed treatment; Ex. 853, 854.	
Chlordane (Ex. 362, 887)		
Copper compounds (Ex. 745, 787; R. 3310)		
DDT (Ex. 155, 362, 699, 834)		
2,3 Dichloro 1,4 naphthoquinone (Ex. 156, 787, 853).	For seed treatment; Ex. 156, 787.	
Ferbam (Ex. 745, 787; R. 3310)		
Fluorine compounds (Ex. 71, 699)		
Mercury compounds (Ex. 155, 158, 362, 473, 507, 513, 787, 853, 854).	For seed treatment; Ex. 155, 158.	
Methoxychlor (Ex. 887)		
Nabam (Ex. 555, 787; R. 3310)		
Nicotine (Ex. 71, 155, 362, 532, 699, 834, 889).		
Parathion (Ex. 699, 834)		Not to be applied later than 3 weeks to harvest. (Ex. 699).
Pyrethrum (Ex. 71, 155, 362, 889)		
Rotenone (Ex. 71, 155, 156, 362, 532, 699, 834, 887; R. 4204).		
Sabadilla (Ex. 699; R. 4204)		
TDE (Ex. 512)		
Sulfur (Ex. 787, 889)		
Tetraethyl pyrophosphate (Ex. 699, 762)		
Thiram (Ex. 156, 513, 787, 853)	For seed treatment; Ex. 156, 513.	
Zinc compounds (Ex. 787)		
Zineb (Ex. 555, 745, 787; R. 3310)		
Ziram (Ex. 787; R. 3310)		

WATERMELONS

Benzene hexachloride (Ex. 533, 834)	Ex. 533, 834	
Calcium arsenate (Ex. 161, 507, 726)	Ex. 161	
Chloranil (Ex. 158, 473, 513, 533, 555, 787)	For seed treatment; Ex. 158, 473.	
Chlordane (Ex. 161, 889)	Ex. 161, 889	
Copper compounds—inorganic (Ex. 71, 157, 507, 533, 555, 710, 726, 733, 787, 834, 889).	Ex. 71	
Copper-zinc-chromate complex (Ex. 787)	Ex. 787	
Copper-8-quinolinolate (Ex. 787)	Ex. 787	
DD mixture (Ex. 555)	As soil fumigant; Ex. 555.	
DDT (Ex. 161, 834)	Ex. 161, 834	
2,3 Dichloro 1,4 naphthoquinone (Ex. 787)	Ex. 787	
Ethylene dibromide (Ex. 555)	As soil fumigant; Ex. 555.	
Ferbam (Ex. 787, 834; R. 944)	R. 944	
Fluorine compounds (Ex. 71, 161, 699, 700, 834, 889).	Ex. 71	
Mercury compounds (Ex. 71, 158, 473, 513, 533, 555, 710, 787).	For seed treatment: Ex. 158, 473.	
Methoxychlor (Ex. 699, 700, 726, 834, 889)	Ex. 699	
Nabam (Ex. 555, 787)	Ex. 787	
Nicotine (Ex. 71, 161, 699, 700, 726, 834)	Ex. 71	
Parathion (Ex. 161, 834)	Ex. 161, 834	Not to be applied within 30 days of harvest. (Ex. 834).
Pyrethrum (Ex. 726, 834, 889)	Ex. 726	
Rotenone (Ex. 507, 699, 700, 726, 834, 889)	Ex. 507, 699	
Sabadilla (Ex. 161, 733, 834, 889)	Ex. 161	
Sulfur (Ex. 157, 787)	Ex. 787	
Tetraethyl pyrophosphate (Ex. 161, 726)	Ex. 161, 726	

VEGETABLES—Continued

WATERMELONS—continued

Name of pesticide	Reference to method of application	Range in quantity of residues
Thiram (Ex. 555, 787)	For seed treatment; Ex. 555.	
Zineb (Ex. 533, 555, 710, 733, 787, 834, 889)	Ex. 533, 555	
Ziram (Ex. 157, 555, 787, 825, 834)	Ex. 157	

21. Generally speaking, it has been found that substances that kill insects are poisonous or deleterious to higher animals. Likewise, practically all the substances that are capable of destroying the micro-organisms causing plant diseases have been found to be deleterious to humans. The substances used as weed killers, to defoliate plants, and to affect fruit set and fruit drop often contain chemicals known to be deleterious to humans. For the purpose of applying the provisions of section 406 of the act, it is reasonable to classify any substance falling in the above categories as deleterious substances unless reliable pharmacological experiments have shown otherwise. (R. 31, 62, 4849–4857, 7092–7093)

22. From results obtained in feeding experimental animals, and from physiological or other effects on man where human exposure has occurred, it is possible to predict the probable effect on humans of the long-continued ingestion of poisonous or deleterious substances. In interpreting such data on a poisonous or deleterious substance, the following points must be borne in mind:

a. Any lack of uniformity of response within and among animal species.

b. The occurrence of unusually alarming reactions such as production of cancer or blood disorders.

c. The occurrence of sensitivity, tolerance, or idiosyncrasy in response to exposure.

In predicting the quantity of a poisonous or deleterious substance that may be consumed over a long period without hazard to man, it is reasonable and advisable to assume that:

a. Man is ten times more prone to injury from the substance than other species of warm-blooded animals.

b. The most sensitive men are ten times more susceptible to injury from the substance than the average man.

Thus, in dealing with new substances to which the human race has not been exposed extensively, it is proper in estimating the quantity that may be consumed without hazard to man to apply a combination of these two factors and use a combined safety factor of 100. Where there has been extensive exposure of humans to the poisonous or deleterious substance and data are available concerning any physiological or other effects on humans, a safety factor of somewhat less than 100 may be employed. Where unusually alarming reactions have occurred from exposure of humans or other animals to the substance it may be desirable to employ a safety factor somewhat greater than 100.

Combinations of poisonous or deleterious substances of similar pharmacological properties require special regulation. (R. 6897, 7301–7303, 7391, 7393, 8511–8513, 8539)

23. Since many poisonous and deleterious substances are found in pesticide residues and the possible additive effect on the public health from all combinations of such substances is not known, and since the amounts of the separate poisonous and deleterious substances which experts believe may be tolerated by humans without hazard to man are at best only estimates, it will aid in the protection of the public health to limit the amount of such substances tolerated on fresh fruits and vegetables so that in no case is the amount tolerated greater than the maximum amount required for the protection of the fruits and vegetables against pests that may attack them.

24. In establishing tolerances, consideration should be given to the quantities of the different fruits and vegetables likely to contain poisonous residues that may be consumed by humans under any probable condition. Some persons may attempt to exist for rather extended periods on diets consisting almost entirely of one or more fresh fruits or vegetables. No data are available on the amount of the maximum consumption of fruits or vegetables under such conditions. Limited surveys have been made of the quantities of commercially grown fruits and vegetables that have been purchased by consumers for food use.

It is not possible to determine accurately the maximum, minimum, or average per capita consumption of each fresh fruit and vegetable or of combinations of these. There are wide geographical, seasonal, and family variations in amounts and kinds of fresh fruits and vegetables consumed.

Investigations have been made of the fresh fruits and vegetables purchased by households in a few cities in the United States. For the purpose of establishing tolerances it can reasonably be assumed that the fresh fruits and vegetables purchased are consumed. These investigations reveal that citrus fruits and melons constitute the fruits bought in greatest quantity by weight. Generally speaking, tolerances for poisonous substances added to citrus fruits and melons should be limited to the amounts necessary to protect such fruits against pests.

In arriving at estimates of the weight of different fruits that may be consumed regularly, for the purpose of estimating possible consumption of pesticide residues, it is reasonable to assume that quantities purchased per week may be consumed at the same level for longer periods and that the use in estimating consumption of a quantity between the average and maximum amounts purchased is better calculated to insure the purpose of achieving general protection of the public health than the use of the average quantities purchased.

As an estimate of the possible daily consumption of fruits in terms of weight, the following figures may be used as a guide for establishing tolerances:

	Daily consumption in pounds
Citrus fruits and melons	1.5
Apples and pears	1.0
All other fruits except tropical or semi-tropical	0.5

Where tropical and subtropical fruits are used they would replace some of the above, and 1 pound a day would be a reasonable figure for a guide.

In the case of vegetables, potatoes constitute the vegetable used in greatest quantity by weight. Since the insecticides and fungicides used in the production of potatoes normally add to the edible portion of the potato only very small quantities, if any, of the poisonous or deleterious substances used, this vegetable may be considered separately when estimating the weight of vegetables consumed that may carry pesticide residues. As a reasonable basis for calculation, it is unlikely that consumption of fresh vegetables other than potatoes will exceed 1 pound per day. Due to the large quantities of potatoes consumed regularly, poisonous substances added to them should be restricted as much as possible. (R. 6934–6949; Ex. 1065)

25. In some cases poisonous and deleterious substances that occur in pesticide residues may also be introduced into the general food supply from other sources. Data on this point are meager. In the case of compounds containing lead, the average diet contains detectable quantities that may amount to as much as ⅓ milligram a day.

Small amounts of arsenic from various sources are also present in the average diet. This may amount to as much as 0.5 milligram a day.

Compounds containing fluorine are found in practically all ground water. The concentration is frequently less than 1 part per million, the average amount necessary to insure maximal dental health. However, the amount of fluorine in ground water varies considerably from place to place, and is so great (2 to 7.2 parts per million) in a few areas that injury to the teeth results. The balance is a delicate one. Fluorides have been added to the water supply in some areas in which the fluorine content of the water is less than 1 part per million.

Minute amounts of mercury are found in soot and dust. The amount that may be absorbed by humans from such sources is not known.

Selenium is widely distributed in soils. Grains grown in certain areas of the United States contain several parts per million of selenium taken up from the soil. (R. 7012–7037, 6919–6923, 8685–8686, 8694; Ex. 1087, 1088)

26. The adoption of the following principles in setting tolerances for poisonous and deleterious substances in pesticide residues will protect the public health and also enable growers of fresh fruits and vegetables to obtain adequate protection against pests:

a. If the quantity of a poisonous or deleterious substance that may be contributed to the diet from all sources, including that derived from residues on fruits or vegetables when these are consumed in quantities that may be reasonably anticipated, exceeds the quantity estimated to be safe, the tolerance for such substance on fresh fruits and vegetables is set at the point of estimated safety.

b. In the case of such similar or related substances as the arsenicals used as pesticides, the various compounds whose action depends on their fluorine content, and the metallic salts of thiocarbamic acid it is proper to set tolerances for the active components common to each class in order to avoid hazards to man.

In the case of the various chlorinated hydrocarbons, the poisonous properties of each such compound are apparently not directly proportional to its chlorine content. On the basis of our present knowledge, it is proper, in order to avoid hazard to man, to limit combinations of such substances so that if two or more such compounds are present in pesticide residue and the quantity of each compound is calculated as the percent of its applicable tolerance, the sum of such percentages is not more than 100. A similar combined tolerance for organic phosphates, and a similar combined tolerance for dinitro compounds is proper.

c. If the total quantity of a poisonous or deleterious substance that may be ingested from all sources does not exceed the quantity estimated to be reasonably safe for consumption, the tolerance for such substance on each fruit or vegetable crop is based on the quantity of such substance necessary to protect the crop.

d. If the quantity of a poisonous or deleterious substance that may be ingested from all sources, including that derived from the use of fruits or vegetables, exceeds the amount estimated to be safe for consumption, but where cleaning methods are available for use in ordinary commercial practice whereby the amount of residue may be so reduced that it, together with the amount derived from other sources, is within safe limits, the quantity remaining after such commercial cleaning is set as the amount tolerated.

e. Although the moisture content of fresh fruits and vegetables varies, it is impracticable to establish tolerances on the basis of the dry matter of such fruits and vegetables, and tolerances for these must be set for each product as it is found, when such product is subject to the requirements of the Federal Food, Drug, and Cosmetic Act.

27. Some poisonous or deleterious substances are applied to fruits or vegetables in such manner that there is no reasonable possibility that residues remaining when the crop is marketed will endanger the public health. Under these circumstances, a tolerance is not required. (These substances should be exempted from the necessity of a tolerance under section 408 of the Federal Food, Drug, and Cosmetic Act which became law after the hearings referred to herein.) (R. 776–786, 6900)

28. The following substances used as pesticides do not cause residues that are considered poisonous or deleterious: Sulfur, lime-sulfur, slaked lime. (R. 6899)

29. The following chemicals are poisonous or deleterious. After the designation of each chemical, facts having a bearing on what tolerance should be established are set forth. A conclusion is drawn as to what tolerance should be adopted to protect the public health.

Aldrin. Aldrin is the insecticide containing not less than 95 percent of 1,2,3,4,10,10 - hexachloro - 1,4,4a,5,8,8a - hexahydro - 1,4,5,8 - dimethanonaphthalene and not more than 5 percent of insecticidally active related chlorinated hydrocarbons.

Aldrin is a recently developed insecticide that has been found effective against a number of important pests. It has been found useful in the control of grasshoppers. It has been used only to a limited extent on fruits and vegetables but has shown promise in various trials against a variety of insects.

Although it tends to be dissipated after application, residues of aldrin may, under certain conditions, remain for some time. Methods for the determination of residues of aldrin are reported. These include the general method for chlorine in organic combination and a special colorimetric method.

Aldrin is quite toxic. Its use should be restricted as to quantity and the number of fruits and vegetables on which used. (R. 5776–5777, 5785–5788, 8416–8480, 8483–8496; Ex. 903, 1216, 1217, 1218, 1219)

A tolerance for aldrin of 0.1 part per million on fruits and vegetables on which it is required will be without hazard to man.

Allethrin. Allethrin is a name adopted by the United States Department of Agriculture for the chemical insecticide *dl*-2-allyl-4-hydroxy-3- methyl-2-cyclopenten-1-one esterified with a mixture of cis and trans *dl*-chrysanthemum monocarboxylic acid. (R. 6884; Ex. 1062)

This is a relatively new synthetic insecticide material. It has been used experimentally but the record does not show that it is necessary. There is no record basis for establishing a tolerance for this substance.

Aramite. See *2-(Paratertiarybutylphenoxy)-1-methylethyl-2 - chloroethyl sulfite.*

Arathane. See *Dinitrocaprylphenyl crotonate.*

Arsenic compounds other than lead arsenate and calcium arsenate. In addition to lead arsenate and calcium arsenate, a number of other arsenic compounds are occasionally used as insecticides. The reasons for using these arsenicals instead of lead arsenate or calcium arsenate is not clearly shown by the record. The following arsenic compounds are involved:

Basic copper arsenate.
Copper-aceto-arsenite (paris green).
Magnesium arsenate.
Manganese arsenate.
Sodium arsenate.

(R. 5229–5230)

Basic copper arsenate has some special fungicidal properties due to its content of copper. It has been used on apples, peaches, beans, potatoes, and tomatoes and has potential insecticidal value in the same way as other arsenicals. (Ex. 834, 1292)

The toxicity of all these arsenic compounds is in proportion to their content of arsenic. The same analytical method for arsenic is applicable to all of them, and analyses are properly reported in terms of arsenic trioxide.

A tolerance based on the arsenic trioxide content such as is adopted for calcium arsenate should be applicable to these arsenicals.

BHC. See *Benzene hexachloride.*

Benzene hexachloride; BHC; 1,2,3,4,5,6-hexachlorocyclohexane (a mixture of several isomers); lindane (the gamma isomer of benzene hexachloride). Both benzene hexachloride (a mixture of several isomers) and the gamma isomer known as lindane have recently come into general use as insecticides. The record is replete with evidence that they are widely used on both fruits and vegetables. The use of crude benzene hexachloride, however, may sometimes alter the flavor of the fruit or vegetable to which it is applied. (R. 6358–6875)

The residues of benzene hexachloride or lindane (when no other chlorinated hydrocarbon has been applied) can be determined by the general method for organic chlorine. (R. 867–868) A specific method for benzene hexachloride has been reported. (R. 872–873; Ex. 152)

Some data on actual residues are reported. These range from less than 1.0 part per million to around 15 parts per million in the case of some vegetables.

A tolerance for lindane of 10 parts per million on fruits and vegetables on which it is required will be without hazard to man.

Commercial benzene hexachloride containing a mixture of isomers, particularly because of the beta isomer, is more toxic than lindane.

A tolerance for commercial benzene hexachloride of 5 parts per million on fruits and vegetables on which it is required will be without hazard to man. (R. 6488–6489, 6494–6500, 6522–6524, 8497, 8509–8515, 8529–8567)

Bioquin. See *Copper-8-quinolinolate.*

Bismuth subsalicylate. This compound is mentioned in the record as being used on beans for white mold. No information on residue was given. In view of the toxic nature of bismuth compounds, more data are needed before any tolerance can be set. (R. 6901; Ex. 787)

Bordeaux mixture, copper-lime mixture. See *Copper compounds.*

Boron compounds. See finding 18.

Bulan. This is a trade name for 1,1-bis(parachlorophenyl) - 2 - nitrobutane, one of the components of Dilan. See *Dilan.*

CR–305. See *Bis(2-hydroxy-5-chlorophenyl) sulfide.*

CR–1639. See *Dinitrocaprylphenyl crotonate.*

CS 645A. A component of Dilan. See *Dilan.*

Cadmium compounds. The record indicates that the use of compounds of cadmium should be restricted to that which does not add this substance to the fresh fruit or vegetable shipped.

Calcium arsenate. This arsenical was once quite widely used as an insecticide on a number of fruits and vegetables that were not injured by its application. To a certain extent it has been used interchangeably with lead arsenate, but is more apt to injure foliage than lead arsenate. It is now used to a limited extent on a number of fruits and vegetables, such as apples, pears, asparagus, broccoli, cabbage, cauliflower, celery, etc. (R. 20–22, 1266–1270, 1854–1858, 2222–2223, 2939; Ex. 835)

The amount of residue on fruits and vegetables resulting from use of calcium arsenate can be determined. (R. 805)

There are little or no data on residues where calcium arsenate was used alone but considerable data on total arsenical residues.

The toxicity of arsenicals is dependent on the quantity of arsenic present. Calculated as As_2O_3, about 3 milligrams a day can be tolerated without hazard to man. (R. 7010)

For the purpose of establishing a tolerance, calcium arsenate should be grouped with other arsenicals and an over-all tolerance should be established in terms of the quantity of As_2O_3 present in the residue.

A tolerance for arsenicals of 3.5 parts per million of As_2O_3 on fruits and vegetables on which they are required will be without hazard to man.

Calcium cyanide. This chemical has a limited use in vineyards and in greenhouses in connection with cucumbers and tomatoes. The record indicates that its insecticidal action is due to the liberation of hydrocyanic acid gas, which is soon dissipated. It is said to leave no residue. (R. 698, 715, 5421)

No tolerance is justified. This chemical should be used only under conditions which leave no residue on fruits or vegetables as prepared for market.

Captan. See *SR 406.*

Chloranil. See *Tetrachloroparabenzoquinone.*

Chlordane. Chlordane is the coined name for 1,2,4,5,6,7,8,8-octachloro-2,3,-3a,4,7,7a - hexahydro - 4, 7 - methanoindene. Octa-Klor, Octachlor, and Velsicol 1068 are trade names for this same chemical. (R. 5592, 5603)

Chlordane is used to protect fruit from attacks by grasshoppers. (R. 739, 1266, 5592; Ex. 155, 527, 530, 721, 769, 834, 886-889)

Residues resulting from the use of chlordane may be determined by the method for organic chlorine and application of a suitable factor. (R. 5594)

Chlordane is extremely toxic. (R. 8255)

A tolerance for chlordane of 0.3 part per million on fruits and vegetables on which it is required will be without hazard to man.

Chlorinated camphene. Toxaphene is the name recognized by the U. S. Department of Agriculture for this chemical insecticide.

Chlorinated camphene has been used successfully on a number of fruits and vegetables. It has about the same potential range of usage as DDT and methoxychlor.

Amounts of residue that may be expected when it is used, in general are less than 7 parts per million. This figure may be exceeded if excessive amounts are used. (Ex. 520, 535, 546, 642, 687, 881)

Residues resulting from the use of chlorinated camphene may be determined by the method for organic chlorine and application of a suitable factor. (R. 807–809)

The toxicity of chlorinated camphene is about the same as that of DDT. (R. 7452–7459, 7541–7549)

A tolerance for chlorinated camphene of 7 parts per million on fruits and vegetables on which it is required will be without hazard to man.

Chloropicrin. This is a soil fumigant the technical designation of which is trichloronitromethane.

Copper compounds other than copper arsenate, copper-aceto-arsenite (paris green), copper-8-quinolinolate, and cupric - N - nitroso - phenylhydroxylamine. The fungicidal effect of compounds of copper has been known and utilized for many years. Many other compounds of copper are now used. In some of these copper has been combined with organic compounds in an attempt to obtain the combined effect of copper and the organic compound. (Ex. 895)

The toxicity of copper compounds now in use as fungicides, except copper arsenate and arsenite, copper-8-quinolinolate, and cupric-*N*-nitroso-phenylhydroxylamine, varies only slightly, and they may be placed in one group. (R. 6900, 8596–8605, 8616–8643)

The copper fungicides are so widely used that no attempt will be made here to list all the fruits and vegetables involved. They cannot be used interchangeably, however, as several may cause injury to certain plants. The need for selecting the suitable copper compound is recognized in good agricultural practice. (Finding 20; Ex. 891–899)

If used according to good agriculture practice, no hazard to man will result from the use of the following:

Bordeaux mixture.
Copper acetate.
Copper carbonate, basic (malachite).
Copper-lime mixtures.
Copper oxychloride.
Copper silicate.
Copper sulfate.
Copper sulfate, basic.
Copper-zinc-chromate.
Cuprous oxide.

(R. 5396–5402, 6909, 8625–8643)

These compounds should be exempted from the requirement of a tolerance under section 408 of the Federal Food, Drug, and Cosmetic Act.

Copper cupferron. See *Cupric-N-nitroso-phenylhydroxylamine.*

Copper-8-quinolinolate. This chemical fungicide is also known as Bioquin. The extent of its use is not clear. It is mentioned as having been experimentally used on avocados. (Ex. 642)

There is no record basis for establishing a tolerance.

Crag 341. See *2-Heptadecyl glyoxalidine.*

Cryolite (sodium aluminum fluoride). Cryolite has been an important insecticide for use on apples and pears. It now has a limited use on citrus fruits and beans and possibly on other vegetables.

When used on apples and pears the quantity of residue varies, but when apples or pears are washed the quantity of cryolite remaining contains not more than 7 parts of combined fluorine per one million parts of apples or pears. The amount on citrus fruit after preparing for market is somewhat less than this.

Analytical methods are available for determining the fluorine component of residues of cryolite. Excessive quantities of cryolite and other inorganic fluorine-containing compounds in the diet are capable of causing injury to the teeth of children during the period of tooth formation.

A tolerance for cryolite of 7 parts of fluorine per million parts by weight of fruit or vegetables on which it is required will be without hazard to man.

Cube, cube root. This is the root of a tropical plant. It contains varying amounts of rotenone. The value of the cube root depends on its rotenone content. See *Rotenone* for a discussion of uses, toxicity, and tolerances. (R. 6781–6782)

Cupric - N - nitroso-phenylhydroxylamine. This chemical is also known as copper cupferron and M–294.

In recent years it has shown some promise as a fungicide on cucurbits and tomatoes. Experimental work to determine toxicity has been started. (R. 2991, 2995, 6211–6215)

There is no record basis for establishing a tolerance.

D–14. See *Disodium ethylene bisdithiocarbamate.*

DDD, TDE, Rhothane. DDD and TDE are common names and Rhothane a trade name for 1,1-dichloro-2, 2-bis-(parachlorophenyl) ethane. This compound has also been called tetrachlorodiphenyl-ethane and dichloro-diphenyl-dichloroethane. (R. 6387–6389)

This insecticide is quite similar in composition and mode of action to DDT. The same general analytical methods can be used for determining DDD in residue as is used for determining DDT. (R. 6390–6393)

Amounts of residue found on fruits and vegetables generally are less than 7 parts per million. (R. 6396–6397; Ex. 1015)

The toxicity of DDD is comparable with that of DDT. (R. 7893–7900, 7905–7940)

A tolerance for DDD of 7 parts per million on fruits and vegetables on which it is required will be without hazard to man.

DDT. DDT is the common abbreviated name of a product having the generic chemical designation dichlorodiphenyl-trichloroethane. Technical DDT is a complex mixture containing about 75 percent of 1,1,1-trichloro-2,2-bis(parachlorophenyl) ethane, the other major component being 1,1,1-trichloro-2-(orthochlorophenyl)-2-(parachlorophenyl) ethane.

DDT is used on 20 or more fruits and 20 or more vegetables. Residues in gen-

eral have been less than 7 parts per million. (Finding 20)

Analytical methods for determination of DDT in residues are available, although such methods do not differentiate DDT from all similar chlorinated hydrocarbons. (R. 781; Ex. 137–140)

The toxicity of DDT has been studied by a number of investigators who are not in complete agreement as to the amounts which can be consumed by humans without risk of injury. Probably this amount is between 2.5 and 5 milligrams of DDT per day.

A tolerance for DDT of 7 parts per million on fruits and vegetables on which it is required will be without hazard to man.

DFDT (difluorodiphenyl trichloroethane). A product similar to DDT, which contains fluorine as a replacement for the chlorine of DDT.

There is no record basis for establishing a tolerance.

DMC. See *di(Parachlorophenyl) methylcarbinol.*

DN–111, DN Dust D–4. See *Dicyclohexylamine salt of dinitro-O-hexylphenol.*

DNOCHP. See *Dinitro-O-cyclohexylphenol.*

Derris. A family or genus of tropical plants that contain the active insecticidal material rotenone. For toxicity, tolerances, etc., see *Rotenone.*

1,1 - Dichloro - 2,2 - bis(parachlorophenyl) ethane. This chemical is known as DDD, TDE, and Rhothane. For detailed findings, see *DDD.*

Dichlorodiphenyl ethane. This chemical is listed as a fungicide. (Ex. 787)

There is no record basis for establishing a tolerance.

2,3-Dichloro-1,4-naphthoquinone. This chemical is known under the trade names of Phygon and Phygon XL. (R. 5279)

It is used for fungicidal purposes on plants as well as for the treatment of seed. It has been used to some extent on apples, peaches, tomatoes, and celery. (R. 5298–5321; Ex. 845, 846)

A method of determining the quantity of this chemical in residues has been reported, but no residue data have yet been obtained through use of the method. (R. 5280–5285; Ex. 843, 1256)

There is a lack of data on results of long-term feeding experiments with this chemical.

There is no record basis for establishing a tolerance.

2,4-Dichlorophenoxy acetic acid. This chemical is commonly known as 2,4–D. It is widely used as a weed killer, and when so used it may accidentally contaminate fruits or vegetables. It is applied directly to apples and pear trees near harvesttime to lessen premature fruit drop. The residue resulting from that use is quite small, since the 2,4–D is applied in a very dilute solution. It is also applied to citrus trees. There should be no more residue on citrus fruit than on apples. (R. 1060, 5964, 6074–6075; Ex. 829, 920, 927, 929, 930)

An analytical method for determining 2,4–D in residue has been reported. (R. 6034; Ex. 979)

The amount that could be taken daily without hazard to man ranges from 5 to 10 milligrams. (R. 8070–8075, 8084–8098)

A tolerance for 2,4–D of 5 parts per million on fruits and vegetables on which it is required will be without hazard to man.

Dicyclohexylamine salt of dinitro-O-cyclohexylphenol, dicyclohexylamine salt of 2,4-dinitro-6-cyclohexylphenol or 2-cyclohexyl-4,6-dinitrophenol dicyclohexylamine salt of DNOCHP. The trade designations of this insecticide are DN–111, DN Dust D–4.

This chemical has recently been developed and used as a miticide on apples and also on pears, cherries, peaches, plums, prunes, strawberries, raspberries, beans, and citrus fruit. (R. 5902–5907; Ex. 220, 221, 293, 295, 340, 344, 351, 509, 722)

A method for the determination of this chemical in residues is reported. (R. 6040, 6077; Ex. 984)

The principal use of this type of compound has been as a dormant spray, with no residue problem. Data on residues of this chemical on apples, peaches, prunes, plums, and citrus fruit indicate that it will usually be present in quantities less than 1 part per million, but may sometimes reach 5 parts per million. (R. 6078; Ex. 939, 976)

In view of the potential hazards from this type of poisonous substance, residues from it should be held at a low level. (R. 8008–8013; Ex. 1175)

A tolerance for this chemical of 1 part per million on fruits and vegetables on which it is required will be without hazard to man.

Dieldrin. Dieldrin is the insecticide containing not less than 85 percent of the principal constituent, the chemical 1,2,3,4,10,10 - hexachloro - 6,7 - epoxy - 1,4,4a,5,6,7,8,8a - octahydro - 1,4,5,8 - dimethanonaphthalene, and not more than 15 percent of insecticidally active related compounds. (Ex. 903)

Dieldrin has been used for soil treatments and to a limited extent on citrus fruit against certain ants and also to a limited extent on a few fruits and vegetables against other insects. (R. 1284, 1946, 1957, 2363, 3637, 3807)

Residues resulting from use of dieldrin may be determined by the method for organic chlorine and application of a suitable factor. A bio-assay method may be used under some conditions. (Ex. 135, 1287)

The toxicity of dieldrin is about the same as that of aldrin. (R. 8383–8387, 8392–8401, 8404–8415, 8483–8496; Ex. 1214, 1215, 1220)

A tolerance for dieldrin of 0.1 part per million on fruits and vegetables on which it is required will be without hazard to man.

O-O-Diethyl-thiophosphoric acid ester of 7-hydroxy-4-methylcoumarin. This chemical has been distributed under the trade name of Potasan. (R. 8836–8846, 9182; Ex. 1242)

It has been used experimentally on lima beans, cabbage, potatoes, and tomatoes. (R. 8839, 9185; Ex. 1243A, 1244)

A method is available for determining residues of this chemical where it is known to have been the only poison used. (R. 9182–9186; Ex. 1243A)

Pharmacological work so far done has established that this chemical is quite toxic. Chronic-toxicity tests are not reported. (R. 8840–8846, 9188)

There is no record basis for establishing a tolerance.

O-O-Diethyl-O-paranitrophenyl thiophosphate. See *Parathion.*

Dilan. Dilan is the trade name for a mixture of 1 part of 1,1-bis(parachlorophenyl)-2-nitropropane and 2 parts of 1,1 - bis(parachlorophenyl) - 2 - nitrobutane. (R. 6219–6227; Ex. 1004)

The two chemicals have been tested separately and together on a few fruits and vegetables and found effective as insecticides. (R. 6235; Ex. 1005)

A method for the determination of these two chemicals in residues on fruits and vegetables is reported. (Ex. 1004, 1261)

Chronic-toxicity experiments with animals have not been completed. (R. 7413–7441; Ex. 1143–1144, 1263)

In the absence of chronic-toxicity data there is no record basis for establishing a tolerance.

Dimite. See *Di(parachlorophenyl) methylcarbinol.*

2,6-Dinitro-6-capryl phenyl crotonate. This chemical has been designated at times as Arathane, Karathane, and CR 1639. (R. 6369)

It has shown promise as a fungicide and insecticide. (R. 3816, 6371; Ex. 156, 174, 414, 504F, 739, 826)

There was no evidence showing that a method for determining the quantity of this chemical in residues was available, and no data were furnished on probable amounts of residues and chronic toxicity. (R. 7941–7945, 7960)

There is no record basis for establishing a tolerance.

2,4-Dinitro-O-sec. butylphenol triethanolamine salt or triethanolamine salt of dinitro-O-sec. butylphenol. The trade designations DNOSBP, DN–289, and Elgetol 318 are used for this chemical.

It has recently been developed as an insecticide. It is commonly applied as a dormant spray on apples, pears, cherries, apricots, plums, and prunes. (R. 5885–5901; Ex. 155, 289, 291, 301, 330, 341, 344, 351, 509K, 688, 721, 722, 741, 746, 751, 834, 888, 1041)

There is no evidence concerning a method for the determination of this chemical in residues on fruits or vegetables.

There are no data as to toxicity of this particular chemical.

There is no record basis for establishing a tolerance.

Dinitro-O-sec. butylphenol. This chemical is used as a weed killer in connection with the growing of peas. (R. 5942, 5951; Ex. 956)

Its toxicity has not been determined by feeding experiments carried on over the lifespan of the animals. Six-month feeding experiments showed considerable toxicity to rats. It was found to cause cataracts in ducklings. (R. 8033–8041; Ex. 1180)

No tolerance is justified. This chemical should be used only where no res-

idue will be left on fruits or vegetables as prepared for market.

Dinitro-O-cresol (sodium salt of). This chemical has been used as a weed killer and for application to apple and peach trees for thinning fruit. (R. 5943, 5983–5989; Ex. 937–941)

The toxicity of this chemical is high and there was a high incidence of cataracts in ducklings when they ingested it. (Ex. 1175–1176)

No tolerance is justified. This chemical should be used only under conditions that leave no residue on fruits and vegetables as prepared for market.

Dinitro-O-cyclohexylphenol, 2,4-dinitro-O-cyclohexylphenol, 2-cyclohexyl-4,6-dinitrophenol. The trade designation of this insecticide is DNOCHP. It is the active ingredient of a preparation known as DN-Dry Mix No. 1.

This chemical is used for the control of mites on citrus fruit. (R. 3475–3485, 3495, 3610, 3712–3834; Ex. 598, 612, 614, 642, 644, 652, 654)

A method for determination of this chemical in residues is reported. (R. 6038, 6040; Ex. 983, 984)

Residues of the chemical in or on citrus fruits range from 0 to 1 part per million at time of harvest. (R. 3670–3683, 3712–3834, 6080; Ex. 634, 637, 642)

In view of the potential hazards from this type of compound, residues from it should be held at a low level. (R. 7999–8007)

A tolerance for this chemical of 1 part per million on citrus fruits will be without hazard to man.

Disodium-3, 6-endoxo-hexahydrophthalate. This chemical is known by the trade name of Endothal.

It has been shown by experiments to have promise as a herbicide and defoliant. (R. 6203)

A method for its determination on fruits and vegetables is reported. (Ex. 1000)

Tests to determine its toxicity have begun but have progressed only far enough to show that the product is toxic to some extent. (R. 8799–8808)

The record contains no residue data on fruits or vegetables on which it may be found.

There is no record basis for establishing a tolerance.

Disodium ethylene bisdithiocarbamate. This chemical is known under the common name nabam and the trade names Dithane and D–14.

Evidence shows that disodium ethylene bisdithiocarbamate is not applied as such to plants but that a zinc salt is mixed with it before application, causing the formation of zinc ethylene bisdithiocarbamate. See *Zinc ethylene bisdithiocarbamate.*

Since the record indicates that the sodium salt is changed to the zinc salt before application to plants, a tolerance for the zinc salt should be set, but not a tolerance for the sodium salt.

Dithane. See *Disodium ethylene bisdithiocarbamate.*

Dithane (Z–78). See *Zinc ethylene bisdithiocarbamate.*

EPN. See *O - Ethyl - O - paranitrophenyl benzenethiophosphonate.*

Endothal. See *Disodium-3,6-endoxohexahydrophthalate.*

O-Ethyl-O-paranitrophenyl benzenethiophosphonate. This chemical is also known as EPN. It has been found effective against several insect pests. (R. 6283–6295; Ex. 1008)

There is record of the use of EPN on apples (Ex. 1005–1008), blackberries (Ex. 690), cherries (Ex. 390), citrus fruit (Ex. 642) dewberries (Ex. 690), peaches (R. 6290), pears (R. 1509), pineapples (Ex. 787), prunes (R. 6289), raspberries and strawberries (Ex. 690), beans (Ex. 212), beets (R. 1267), corn (Ex. 698), cucurbits (R. 1266), lettuce (R. 1267), potatoes (Ex. 212), spinach (R. 1266), and turnips (Ex. 212).

The Averill and Norris method for the determination of parathion can be used for the determination of the quantity of EPN in residues. (R. 842–844)

Residue data are reported on apples, citrus fruit, peaches, and pears showing amounts varying from traces to 2–3 parts per million on citrus fruits (the highest reported). (Ex. 642, 1008)

The pharmacological properties of this chemical are similar to those of parathion but it is somewhat less toxic. It is estimated that 4 milligrams per day may be tolerated. (R. 7696–7715, 7716–7722; Ex. 1160)

A tolerance for EPN of 3 parts per million on fruits and vegetables on which it is required will be without hazard to man.

Ethylene dibromide. This is a soil fumigant.

Ethylene dichloride. This is a soil fumigant.

Ferbam, Fermate. See *Ferric dimethyldithiocarbamate.*

Ferric dimethyldithiocarbamate. This chemical is known under the names of ferbam and Fermate. (R. 6298)

Ferbam has been used as a fungicide on apples, cherries, pears, quinces, grapes, bush fruits, celery, and spinach. (R. 6305–6306)

A method for the determination of the quantity of this chemical in residue is reported. (R. 6345–6349; Ex. 1011, 1012)

Residue data are reported on apples and cherries (2.5 and 3.6 parts per million). (R. 6309; Ex. 1009) A combination of this chemical with zinc dimethyldithiocarbamate (ziram) when applied to celery resulted in residues as high as 14.3 parts per million on whole stalks and 33.4 parts per million on the upper portion before washing. After washing, amounts found ranged from 1.4 to 6.1 parts per million. (Ex. 1009)

For findings about toxicity and a safe tolerance, see *Zinc ethylenebisdithiocarbamate.*

Glyoxalidine. This general designation is sometimes used for 2-heptadecyl glyoxalidine. The trade name Crag 341 is also used for this chemical.

H–258. This is said to be an organic compound containing cadmium. The record does not show the definite identity of H–258.

Heptachlor. Heptachlor is the trade name for the chemical 1,4,5,6,7,8,8a-heptachloro - 3a,4,7,7a - tetrahydro - 4, 7-methanoindene.

Heptachlor is one of the components of chlordane. (R. 5600, 8330; Ex. 885)

It has proved effective against ants and grasshoppers.

The quantity present in residues may be determined by the general method for organic chlorine. (R. 5601)

The toxicity of heptachlor is probably about the same as that of technical chlordane. (R. 8337–8339)

A tolerance for heptachlor of 0.1 part per million on fruits and vegetables on which it is required will be without hazard to man.

2-Heptadecyl glyoxalidine. This chemical is also known as Crag 341. (R. 5383)

It has been used as a fungicide for control of apple scab and cherry leaf spot. (R. 5373–5386; Ex. 790, 861, 862)

A method for determining the quantity of this chemical in residues is reported. Residues on experimentally sprayed apples and cherries are reported, the quantity on the apples averaging around 1 part per million and the cherries around 4 parts per million. (R. 5408–5415; Ex. 866, 1275)

The toxicity of this chemical to rats, guinea pigs, and dogs has been studied. (R. 5408–5415, 7379–7392; Ex. 866, 1135–1139, 1275)

A tolerance for 2-heptadecyl glyoxalidine of 5 parts per million on fruits and vegetables on which it is required will be without hazard to man.

1,2,3,4,5,6 - Hexachlorocyclohexane. See *Benzene hexachloride.*

1,2,3,4,10,10 - Hexachloro - 6,7 - epoxy-1,4,4a,5,6,7,8,8a - octahydro - 1,4,5,8 - dimethanonaphthalene. See *Dieldrin.*

1,2,3,4,10,10 - Hexachloro - 1,4,4a,5,-8,8a - hexahydro - 1,4,5,8 - dimethanonaphthalene. See *Aldrin.*

Hexaethyl tetraphosphate and tetraethyl pyrophosphate. These chemicals are known as HETP and TEPP, respectively. Insecticides containing these substances have been sold under a number of fanciful names such as Vapotone, Killex, etc. (Ex. 180)

Although the two chemicals named above are not identical, the commercial preparations in use under these names appear to be mixtures of the two. Tetraethyl pyrophosphate is the active ingredient of these mixtures. (R. 6549; Ex. 145)

Tetraethyl pyrophosphate is widely used as an insecticide. The residues rapidly decompose into relatively inert ingredients but the undecomposed product itself is extremely toxic. (R. 845; Ex. 1029)

The record shows use on 20 or more fruits and a like number of vegetables. (R. 679, 698, 1063, 1624, 1632, 1964, 3201, 3208, 6563; Ex. 161, 164, 180, 512, 533, 534, 642), 751, 834) There should be no residue problem if these chemicals are applied 3 days or more before harvest. (R. 8580; Ex. 1029)

Although acutely toxic, this chemical does not cause a residue problem if used according to good agricultural practice. (R. 6904, 8588)

No tolerance is justified. This chemicals should be used only under conditions that leave no residue on fruits or vegetables as prepared for market.

Hydrocyanic acid. This chemical is applied as a fumigant to citrus trees to control scale. The trees may carry fruit at the time of application. The hydrocyanic acid is quickly dissipated,

and no residue can be detected after 36 hours. (R. 3727–3728, 3789; Ex. 641)

Hydrocyanic acid is acutely toxic, but under the conditions of use on citrus fruit trees should cause no health hazard to the consumer of citrus fruit.

No tolerance is justified. This chemical should be used only under conditions that leave no residue on fruits or vegetables as prepared for market.

bis(2-Hydroxy-5-chlorophenyl, sulfide. This is the fungicide designated by the trade name CR 305. (R. 2011; Ex. 430, 787)

Although this chemical is mentioned in the record, sufficient evidence is not supplied on which to base findings as to the need for its use or its safety.

K–1875. See *bis(Parachlorophenoxy) methane.*

K–6451. See *Parachlorophenyl parachlorobenzene sulfonate.*

Karathane. See *2,6-Dinitro-6-capryl-phenyl crotonate.*

Lauryl pyridinium bromide and lauryl pyridinium chloride. There is no evidence of use other than as soil fumigants; no tolerance appears necessary.

Lead arsenate. Lead arsenate has been widely used as an insecticide for many years. Prior to the introduction of organic insecticides it was the insecticide in most general use in the United States. It is still used extensively. (R. 5247; Ex. 836, 837)

Methods are available for the determination of both the lead and arsenic components of lead arsenate. (R. 775, 804–805)

Residue data on lead arsenate are voluminous.

Where several applications of lead arsenate are made to fruits or vegetables the residues will probably be in excess of 7 parts per million of lead before washing; after washing it should be below this figure. (Ex. 23, 34, 54–56, 181B, 183A, 183B, 183C, 254, 258, and others)

The toxicity of lead arsenate to animals and man has been studied extensively. The toxic action of lead arsenate is cumulative. The long-continued daily ingestion of lead arsenate containing more than 1 milligram of lead is not safe. (R. 7034, 7051–7053)

Experience has shown that lead arsenate on apples and pears in amounts such that its lead content is not more than 7 parts per million parts of the fruit is not likely to cause injury. (R. 6989–6991)

A tolerance of 7 parts per million for the lead component of lead arsenate on fruits and vegetables, except for citrus fruit, on which the lead component should not exceed 1 part per million, will be without hazard to man.

Lindane (gamma isomer of benzene hexachloride). See *Benzene hexachloride.*

MGK-264, Octacide, Van Dyk 264. See *N-Octylbicyclo (2,2,1)-5-heptene-2,3-dicarboximide.*

M-294. See *Cupric-N-nitroso-phenylhydroxylamine.*

Malachite. Presumably this is the basic carbonate of copper. See *Copper compounds.*

Mercury compounds. These fall into two classes, one class being for application to seed, the other for use on growing plants. When applied to seed there is no evidence that mercury is later taken up by the growing plant.

The mercury compounds for use on growing plants include phenylmercuric triethanolammonium lactate, phenylmercuric acetate, and phenylmercuric methanol ammonium acetate.

These compounds have been used experimentally as fungicides, and there has been some use on fruit trees before fruit is formed. (R. 900; Ex. 430)

The organic mercury compounds are effective against apple scab and have a limited use on other fruit trees. (R. 922, 2501, 6608–6707)

A method is available for the determination of mercury in residues, and data were presented showing what residues may be expected on apples when phenylmercuric compounds are used against apple scab. (Ex. 831, 1032, 1039, 1040)

The toxicity of mercury compounds depends to some extent on the chemical combination of the mercury. The phenylmercuric compounds are among the most toxic for continued ingestion, since in this form the mercury component is absorbed by the body and is stored. (R. 8644–8652)

The exact combination of mercury in residue from phenylmercuric compounds has not been determined, but there is some evidence that it may no longer be the same as when the phenylmercuric compounds are applied. Mercury that is stored in the body is unsafe in any amount. (R. 6616, 8650)

No tolerance is justified. The compounds of mercury should be used only under conditions where no residue will remain on fruits or vegetables as prepared for market.

Metacide. This is the trade name for the methyl homologue of parathion. The commercial preparation under this designation contains some parathion. (R. 5534–5535; Ex. 878)

The methyl homologue of parathion has the same general properties and range of use as parathion. (R. 5545, 5549–5551)

The Averill-Norris method for the determination of parathion can be used to determine the methyl homologue. (R. 5540)

The toxicity of the methyl homologue of parathion is about the same as parathion. (R. 7251–7252)

A tolerance for Metacide of 1 part per million on fruits and vegetables on which it is required will be without hazard to man.

Methoxychlor. This is the common name for the chemical 1,1,1-trichloro-2,2-bis(paramethoxyphenyl) ethane. This chemical is similar to DDT in its molecular configuration. It has insecticidal properties similar to DDT, and its use in general parallels that of DDT. (R. 6263–6275; Ex. 1007)

Methoxychlor in residues can be determined by the Schechter-Haller method for DDT. A specific method for methoxychlor is reported. (R. 6346, 6347, 8878; Ex. 1247)

Data showing the residues from the use of methoxychlor are reported for a few fruits and vegetables. Since many of the results reported do not represent amounts remaining after weathering, they are higher than would be expected in the ordinary use. Under normal conditions the residues from methoxychlor should be about the same as from DDT. (R. 6257–6258)

The toxicity of methoxychlor to animals is somewhat less than that of DDT. (R. 7683, 7691–7692; Ex. 1158)

A tolerance for methoxychlor of 14 parts per million on fruits and vegetables on which it is required will be without hazard to man.

Nabam. See *Disodium ethylene bisdithiocarbamate.*

Naphthalene acetic acid. Naphthalene acetic acid and the sodium salt of beta-naphthalene acetic acid are not used as insecticides or fungicides but as synthetic plant hormones. Naphthalene acetic acid has been used in low concentration to prevent premature dropping of apples and pears. (R. 5960–5963; Ex. 829)

Since this chemical is applied in very minute quantities, the residue, if any, will be low.

A tolerance of 1 part per million will permit all necessary agricultural use and will constitute no hazard to man.

Neotran. See *Bis(parachlorophenoxy) methane.*

Nicotine and nicotine compounds. Nicotine and nicotine sulfate have been widely used for many years as insecticides on many fruits and vegetables, including citrus fruits and leafy vegetables. (R. 389, 998, 1603, 3045, 3262, 3634; Ex. 20, 22, 71, 161, 178, 232, 253, 327, 509X, 726, 834)

Methods for the determination of nicotine in residues are available. (Ex 349, 424, 642)

Usually the residues remaining from the application of nicotine-containing materials drops to less than 2 parts per million soon after application. (Ex. 349, 424, 642 (app. H), 998)

Although nicotine is quite toxic, the residues ordinarily resulting from nicotine-containing materials are not hazardous to man. (R. 6900)

A tolerance for residues of nicotine-containing materials of 2 parts per million of combined or free nicotine per million parts of fruit or vegetable on which it is required will be without hazard to man.

Octachlor, Octa-Klor. See *Chlordane.*

1,2,4,5,6,7,8,8-Octachloro-2,3,3a,4,7,7a-hexahydro - 4,7 - methanoindene. The commonly used designation for this chemical is chlordane. See *Chlordane.*

Octacide 264, MGK-264. See *N-Octylbicyclo (2,2,1)-5-heptene-2,3-dicarboximide.*

Octamethyl pyrophosphoramide. This chemical is also known as bis(dimethylamino) phosphonous anhydride. It has been used as an insecticide against aphids and mites in England. The product has not been used commercially in the United States. It is absorbed to some extent by plants on which applied, so that their foliage becomes toxic to some insects. (R. 7794–7801; Ex. 1162, 1163)

Plants sprayed with this chemical were fed to large animals, without evidence of acute toxicity. (R. 7802–7818; Ex. 1164)

The chemical itself is very toxic. No study is reported of its chronic toxicity. (R. 7818–7832, 7851–7862; Ex. 1166)

There is no record basis for establishing a tolerance.

N-Octylbicyclo (2,2,1)-5-heptene-2,3-dicarboximide. This chemical is known as Octacide 264 and MGK–264. It has also been referred to in the record as Van Dyk 264. (R. 6844, 6847)

It has been found useful as a synergist for pyrethrum and allethrin. (R. 6844–6850)

When used as a synergist with pyrethrum this chemical should cause no health hazard if the mixtures are used according to good agricultural practice. (R. 6900)

This compound should be exempted from the requirement of a tolerance under section 408 of the Federal Food, Drug, and Cosmetic Act.

Ovotran. See *Parachlorophenyl-parachlorobenzene sulfonate.*

Parachlorophenoxy acetic acid. This chemical is used to affect fruit size and fruit set, including the set of tomatoes. (R. 5959, 5967; Ex. 931–934)

The record contains no reference to a method for determining quantity of residue, no estimates of residue, and no evidence concerning toxicity.

There is no record basis for establishing a tolerance.

bis(Parachlorophenoxy) methane. This chemical is sold under the trade name of Neotran, and is used as an insecticide for the control of mites.

It has been used on citrus fruits. (R. 3568, 3615, 3761, 3797; Ex. 640, 642)

The record does not contain data adequate to permit an accurate determination of the toxicity of this chemical. There is no record basis for establishing a tolerance.

1,1-bis (Parachlorophenyl)-2-nitrobutane (a component of Dilan). See *Dilan.*

1,1 - bis(Parachlorophenyl) - 2 - nitropropane. This is one of the components of Dilan. See *Dilan.*

di(Parachlorophenyl) methylcarbinol. This chemical is sold under the trade names of Dimite and DMC.

It has had some use as a miticide and against red spiders on apples, pears, and peaches and has been used in greenhouses on unspecified plants. No residue data were offered. (R. 9149, 9155; Ex. 1288, 1289)

Where present alone, the quantity in residue can be determined by the Schechter-Haller method for DDT. (R. 9152; Ex. 1289)

Chronic-toxicity data on this chemical are not reported.

There is no record basis for establishing a tolerance.

Parachlorphenyl - parachlorobenzene sulfonate. This chemical is also known as K-6451 and by trade names such as Ovotran.

This insecticide has been used for the control of mites. It has so far been used only experimentally. (R. 8126–8127; Ex. 161 (p. 23))

A method for the determination of this chemical in residues on fruits and vegetables is reported. Some data relative to quantity of residue on a few fruits are reported. (Ex. 1250–1251)

The data on the toxicity of this chemical are not extensive. (R. 8126–8135; Ex. 1198)

In view of the lack of long-term feeding experiments, there is no record basis for establishing a tolerance.

Parachlorophenyl phenylsulfone. This chemical has been referred to as R-242. (R. 6462)

It has shown some promise for control of mites on apples, pears, prunes, citrus fruit, beans, celery, and cucumbers. (R. 9169; Ex. 642, 1022)

The quantity of the residue may be estimated by use of the organic chlorine method. A specific method for this chemical is also described. (R. 9176)

Residue data on experimentally treated oranges, apricots, and pears are reported. (R. 9173–9175)

Short-term experiments with rats and dogs are reported, but data concerning chronic toxicity of the compound are not reported. (R. 7626–7637, 9178; Ex. 1154, 1154A)

There is no record basis for establishing a tolerance.

2, 2 - bis(Paramethoxyphenyl) 1, 1, 1-trichlorethane. See *Methoxychlor.*

2 - (Paratertiarybutylphenoxy) - 1-methylethyl-2-chloroethyl sulfite. This chemical is the active principle of a recently developed miticide known as Aramite. (R. 5327)

It has been found to be useful against mites on apples, citrus fruit, grapes, peaches, apricots, cherries, plums, beans, celery, tomatoes, and strawberries. (R. 8911)

A method for determining residual amounts of this chemical on fruits and vegetables is reported. (Ex. 1254)

A very limited amount of data on residues are reported. On apples a residual amount of 3.5 parts per million is reported. (Ex. 1254)

Extensive studies on rats and dogs on the toxicity of this chemical are under way. (R. 6905, 8159–8189; Ex. 1204)

There is no record basis for establishing a tolerance.

Parathion. This chemical is also known by several trade names. Parathion is the common name for the chemical *O,O*-diethyl-*O*-paranitrophenyl thiophosphate. It has come into general use on a number of fruits and vegetables. (R. 857, 5461)

A method for determining the quantity of parathion residue on fruits and vegetables has been evolved, and considerable data on residues are available. (R. 782, 842, 5445; Ex. 147)

Data on residues on apples, apricots, blackberries, blueberries, cherries, citrus fruit, and a number of other products are reported. In general, these results show less than 1 part per million on the fruit or vegetable. (R. 397–400, 1178, 1266, 1273, 1619–1620, 1630, 3016, 3264, 3490, 3560, 3735, 3815, 3818, 3994, 4432; Ex. 62, 84–87, 89, 90, 268, 297, 354, 512, 529, 535, 633, 642, 780, 871, 1246, 1265A)

The acute toxicity of parathion is very great, but it becomes dissipated very rapidly after application, so that it can be used without leaving residues that are actuely toxic. (R. 7237–7250, 7253–7281, 7282–7319; Ex. 1129–1133)

A tolerance for parathion of 1 part per million on fruits and vegetables on which use is required will be without hazard to man.

Paris green. Paris green is the commonly used name for the chemical copper acetoarsenite. See *Arsenic compounds other than lead arsenate and calcium arsenate.*

Parzate. See *Zinc ethylene bisdithiocarbamate.*

P. E. P. S. This is a designation for polyethylene polysulfide. The record does not furnish sufficient data to establish the status of this substance as a fungicide.

Petroleum oils. Several fractions of petroleum are used as insecticides or fungicides. There is record of the use of petroleum oils on a number of fruits, including apples, pears, apricots, berry fruits, citrus fruit, figs, grapes, guava, mangoes, peaches, and plums. (R. 1419, 1772, 3032, 3264; Ex. 161, 230, 291, 295, 548, 619, 834)

Petroleum oils have been used to a lesser extent on vegetables. Use is reported on beans, cabbage, carrots, celery, corn, cucumbers, onions, peas, and tomatoes. (R. 4200, 6742; Ex. 161, 512, 834)

Petroleum oil, when used in this manner, does not constitute a health hazard and should be exempted from the requirement of a tolerance under section 408 of the Federal Food, Drug, and Cosmetic Act.

Phenothiazine. This chemical has been used as an insecticide on apples. (Ex. 301) A method for the determination of the quantity of phenothiazine in residues is available.

The toxicity of phenothiazine has been studied. (R. 7222–7232)

A tolerance for phenothiazine of 7 parts per million on apples will be without hazard to man.

Phygon XL. See *2,3-Dichloro-1,4-naphthoquinone.*

Piperonyl butoxide and piperonyl cyclonene. These chemicals increase the effectiveness of pyrethrum and rotenone and are used in combination with these insecticides as synergists. (R. 6773) They may be used with pyrethrum and rotenone for all purposes for which these substances are used. The toxicity of these compounds is of a low order. (R. 7984–7986; Ex. 1201–1202)

When used as synergists with pyrethrum and rotenone the residues present no health hazard. (R. 6900)

These chemicals should be exempted from the requirement of a tolerance under section 408 of the Federal Food, Drug, and Cosmetic Act.

Potasan. See *O,O-Diethyl-thiophosphoric acid ester of 7-hydroxy-4-methylcoumarin.*

Potassium ammonium selenium sulfide. See *Selenium compounds.*

Prolan, a component of Dilan. See *Dilan.*

N-Propyl isome. This chemical is a synergist for use with ryania and pyrethrum and increases their effectiveness. It has little toxicity itself. (R. 5260–5263, 6900)

This chemical should be exempted from the requirement of a tolerance under section 408 of the Federal Food, Drug, and Cosmetic Act.

Pyrethrum, pyrethrum flowers. The basic product consists of the dried flowers of *Chrysanthemum cinerareafolium.* (R. 6800) The active ingredients of pyrethrum flowers are known as pyrethrins. Ground pyrethrum flowers and pyrethrins in mixtures with various carriers have been widely used as insecticides, particularly on vegetables. (R. 6777) Synergists may be added to increase effectiveness of the pyrethrins.

These substances decompose rapidly after application to fruits and vegetables and lose their toxicity. (R. 6805)

No health hazards are to be anticipated as pyrethrum or pyrethrins, with or without synergists, are used today. (R. 6900)

These substances should be exempted from the requirement of a tolerance under section 408 of the Federal Food, Drug, and Cosmetic Act.

R–242. See *Parachlorophenylsulfone.*

Rhothane. See *DDD.*

Rotenone. Rotenone is the name applied to an insecticide ingredient obtained from cube and derris. Powdered cube and derris roots may be used as insecticides, or the active ingredient rotenone may be extracted and used in various formulations. Piperonyl cyclonenes and other synergists may be added. (R. 6781–6783) Rotenone preparations have been widely used, particularly on vegetables.

No health hazards are to be anticipated from the present-day use of rotenone or rotenone with synergists. (R. 6900)

This substance should be exempted from the requirement of a tolerance under section 408 of the Federal Food, Drug, and Cosmetic Act.

Ryania. The ryania used for insecticide purposes is the finely ground stemwood of the plant *Ryania speciosa.* The principal use of ryania is against the corn borer. (R. 5261, 5269–5270; Ex. 840, 842). *N*-propyl isome is often used as a synergist.

No health hazards are to be anticipated from the present-day use of ryania. (R. 6900)

This substance should be exempted from the requirement of a tolerance under section 408 of the Federal Food, Drug, and Cosmetic Act.

SR-406. This is a trade designation for *N*-trichloromethyl-thiotetrahydrophthalimide. It has sometimes been called Orthocide-406. (R. 6579; Ex. 1030A) The name captan has been accepted by the United States Department of Agriculture for this pesticide.

The acute toxicity reported for this chemical is low. Sub-acute tests are under way. No data on chronic toxicity were available. (R. 7964, 7967; Ex. 1199–1200)

There is no record basis for establishing a tolerance for this chemical.

Sabadilla seed. Sabadilla is a tropical or subtropical plant, the seed of which has insecticidal properties. (R. 6448–6453; Ex. 1021A and B)

Sabadilla seed are reported as useful on cabbage and squash.

No health hazards are to be anticipated from the present-day use of this substance. (R. 6900)

Sabadilla seed should be exempted from the requirement of a tolerance under section 408 of the Federal Food, Drug, and Cosmetic Act.

Selenium compounds. Selocide is the trade name for a concentrated solution of a mixture of potassium hydroxide, ammonium hydroxide, sulfur, and selenium in the proportions corresponding to the empirical formula $(KNH_4S)_3Se$ (R. 6814; Ex. 280 (p. 117)).

The reactions that occur when a concentrated solution of Selocide is diluted with water, as in preparing a spray mixture, are not known. When such a dilution occurs, there is produced a finely divided dark-red precipitate which appears to be the red allotropic form of selenium. This form of the element may be converted into soluble combined states by water and mild oxidizing agents or by bacteria. (R. 6828; Ex. 280 (pp. 117, 144)) Selocide has been used on apples, pears, peaches, and citrus fruit against mites. (R. 6813) Selenium is one of the most toxic elements known. Its chronic toxicity is great when it is present in inorganic or organic compounds. (R. 7554) When selenium is present in the diet of cats in a dietary concentration of about 0.3 part per million, it causes signs of intoxication. (R. 7555) The record is replete with other evidence of the toxicity of selenium compounds. (R. 7553–7616; Ex. 1151, 1152)

Selenium is more toxic to young, growing animals than to adults. (R. 7558)

Small quantities of elemental selenium appearing in the diet over a long period of time may be absorbed. (R. 7613)

No tolerance is justified. Selenium or selenium compounds should not be used under any condition that will leave a residue in or on fruits or vegetables as prepared for market.

Selocide. See *Selenium compounds.*

Semeson. See *Mercury compounds.*

Sesamin. Sesamin is the name given to a constituent of sesame oil. This substance has no insecticidal properties but is useful as a synergist for pyrethrum and possibly other insecticides.

The record indicates that its principal use is in connection with pyrethrum as a fly repellent. (R. 6877–6883)

No data on toxicity, if any, of sesamin are reported.

There is no record basis for establishing a tolerance.

Sodium aluminum fluoride. This chemical, when obtained from the naturally occurring mineral product, is commonly known as cryolite. See *Cryolite.*

Sodium fluosilicate. There is very little evidence about this compound. It possibly may be useful under some conditions, but the evidence does not show what these conditions are.

Spergon. See *Tetrachloroparabenzoquinone.*

Sulfotepp. See *Tetraethyl dithiopyrophosphate.*

Sulfur. Sulfur is not classed as a poisonous or deleterious substance.

Tartar emetic. Tartar emetic is the common name for potassium antimonyl tartrate. It has been used, mixed with sugar, for the control of thrips on citrus trees. It has also been used to some extent on onions. In both cases it has been found to be reasonably effective. (R. 7657)

There is an adequate method for the determination of the antimony component of tartar emetic in residues. When used on citrus fruit the residue varies, but may be as high as 10–20 parts per million before the fruit is washed. After washing, amounts reported were below 5 parts per million. (Ex. 672)

The acute toxicity of tartar emetic is high. The chronic toxicity, based on the antimony content, is about the same as that of arsenic trioxide. (R. 7661–7662)

A tolerance for tartar emetic of 3.5 parts per million of antimony trioxide on citrus fruit and on onions will be without hazard to man.

TDE. See *DDD.*

TEPP. See *Hexaethyl tetraphosphate.*

Tetrachloroparabenzoquinone. This chemical, sometimes called by the chemical name chloranil, is distributed under the trade name of Spergon for use as a fungicide in treating seed.

It has been used in limited experiments on lima beans, broccoli, brussels sprouts, cabbage, cauliflower, collards, and kohlrabi. (Ex. 472, 527, 710, 733, 857)

An analytical method for determining amounts of this chemical in residues has been worked out. (R. 5322; Ex. 849)

Residue data and chronic-toxicity data are not reported. There is no record basis for establishing a tolerance.

Tetraethyl dithiopyrophosphate. Tetraethyl dithiopyrophosphate, also known as sulfotepp, has been used experimentally on greenhouse tomatoes, cucumbers, and lettuce. (R. 8850–8858; Ex 1244)

Insufficient data are available on which to base a tolerance for this substance on fresh fruits or vegetables.

Tetramethylthiuram disulfide. This chemical is sold under the designation thiram for agricultural use. The principal use is for treating seeds. No tolerance is justified from such use.

Thiram. See *Tetramethylthiuram disulfide.*

Toxaphene. See *Chlorinated camphene.*

1,1,1 - Trichloro - 2,2 - bis(parachlorophenyl) ethane and 1,1,1-trichloro-2-(orthochlorophenyl) - 2 - (parachlorophenyl) ethane. See *DDT.*

1,1,1 - Trichloro-2,2-bis(paramethoxyphenyl) ethane. See *Methoxychlor.*

N - Trichloromethylthiohydrophthalimide. See *SR–406.*

N-Trichloronitromethane. See *Chloropicrin.*

Trichlorophenol. This chemical is used as a soil fumigant. No tolerance is justified.

2,4,5-Trichlorophenoxy acetic acid, 2,4,5-T. The record does not permit findings as to the insecticidal or fungicidal use of this chemical.

U. S. I. 469. This compound has been tried experimentally as a synergist. (R. 6773, 6787; Ex. 1053)

Its acute toxicity is low but no data on chronic toxicity are reported. There is no record basis for establishing a tolerance.

Van Dyk 264. See *N-Octylbicycloheptene dicarboximide.*

Velsicol 1068. See *Chlordane.*

Xanthates. The following xanthates have been recognized to have properties placing them in the class of defoliants and selective weed killers; Potassium ethyl xanthate, potassium isopropyl xanthate, potassium methyl xanthate, sodium ethyl xanthate, sodium isopropyl xanthate, sodium methyl xanthate. (R. 6729; Ex. 1048)

The use of these chemicals has been mainly on an experimental basis. (R. 6729–6731)

No data on residue were presented. All these compounds are thought to break down rapidly into harmless substances but no definite evidence on this point was available. (R. 6731, 7639–7650)

There is no record basis for establishing a tolerance.

Z-78. See *Zinc ethylenebisdithiocarbamate.*

Zinc dimethyldithiocarbamate. This chemical is known by the coined name of ziram.

Zinc dimethyldithiocarbamate has been used as a fungicide on apples, apricots, cherries, and other fruits and on vegetables. It has the same general applicability as the iron salt. (R. 899, 6303)

For findings about toxicity and a safe tolerance, see *Zinc ethylenebisdithiocarbamate.*

Zinc ethylenebisdithiocarbamate. This chemical is known under the coined name of zineb and the trade names Dithane, Z–78, and Parzate. The substance is widely used as a fungicide on fruits and vegetables; its use generally parallels that of sulfur. (Ex. 286, 442, 533, 550, 555, 558, 710, 745, 798, 1006, 1010; R. 955, 956, 3310, 3870, 6309)

A method for the determination of this chemical in residues is reported. (Ex. 1012, 1016) Very little data showing residues from actual commercial use are reported.

The toxicity of ferbam, ziram, and zineb is proportional to the quantity of the dithiocarbamic acid component that each contains. Since this is essentially the same for each compound, a tolerance for the three chemicals, singly or in combination, may be established properly in terms of the total amount of dithiocarbamic acid component present in the residue. For practicable application of such a tolerance, the total amount of dithiocarbamic acid component present in residues may be calculated to the corresponding amount of zinc ethylenebisdithiocarbamate.

The acute toxicity of ferbam, ziram, and zineb is low. However, they have goitrogenic properties, and a limitation on the amounts that may remain as residues is required. (R. 7726–7729, 7768–7786, 7869–7886; Ex. 1161, 1168)

A tolerance for ferbam, ziram, or zineb or any combination of the three, of 7 parts per million of metallic dithiocarbamates, calculated as zinc ethylenebisdithiocarbamate, on fruits or vegetables on which they are required will be without hazard to man.

Zineb. See *Zinc ethylene bisdithiocarbamate.*

Ziram. See *Zinc dimethyl dithiocarbamate.*

Conclusions. From the foregoing findings of fact it is concluded that:

1. As used in agriculture today, the following poisonous or deleterious substances constitute no hazard to man:

Bordeaux mixture.
Copper acetate.
Copper carbonate, basic (malachite).
Copper-lime mixtures.
Copper oxychloride.
Copper silicate.
Copper sulfate.
Copper sulfate, basic.
Copper-zinc chromate.
Cuprous oxide.
Octacide 264 (*N*-Octylbicyclo-(2,2,1)-5-heptene-2,3-dicarboximide).
Petroleum oils.
Piperonyl butoxide.
Piperonyl cyclonene.
N-Propyl isome.
Pyrethrum and pyrethrins.
Rotenone or derris or cube roots.
Ryania.
Sabadilla.

No tolerances need be established for the residues of these pesticides on fruits or vegetables under section 406 of the Federal Food, Drug, and Cosmetic Act. These materials should be exempted under section 408 from the requirement of a tolerance when applied to growing crops.

2. The following poisonous or deleterious substances should not be used under conditions that will leave any toxic residues from them on fruits or vegetables as prepared for market.

Calcium cyanide.
Dinitro-*O*-sec. butylphenol.
Dinitro-*O*-cresol (sodium salt).
Hexaethyl tetraphosphate.
Mercury-containing compounds.
Hydrocyanic acid.
Selenium and selenium compounds.
Tetraethyl pyrophosphate.

3. The poisonous and deleterious substances for which tolerances are set in § 120.101 are required or cannot be avoided in the production of the fresh fruits and fresh vegetables in or on which residues from such substances are tolerated.

4. The tolerances for pesticide residues provided in § 120.101 will protect the public health.

Upon consideration of the whole record and the foregoing findings of fact and conclusions, it is concluded that the following tolerances for residues of pesticide chemicals in or on raw agricultural commodities should be adopted. Therefore:

It is ordered, That § 120.101 providing such tolerances be added to Part 120.

§ 120.101 *Specific tolerances for pesticide residues in or on fresh fruits and vegetables.* (a) (1) This section designates the poisonous or deleterious substances that, for the purposes of section 406 of the Federal Food, Drug, and Cosmetic Act, are found to be required in the production of the fresh fruits or vegetables named in paragraph (e) of this section. The tolerances established for such substances apply only to residues resulting from their application prior to harvest. A tolerance in terms of parts by weight for the poisonous or deleterious substance, or poisonous or deleterious residue resulting from its addition, to 1 million parts by weight of the fruit or vegetable is set forth after the name of each of the required substances.

(2) For the purposes of this section, the following substances are not considered as poisonous or deleterious substances: Sulfur, lime, lime-sulfur.

(b) The poisonous and deleterious substances for which tolerances are established by this section are named by their common names wherever practicable, otherwise by their chemical names or by names assigned to them by the United States Department of Agriculture. For the purposes of this section, the substances for which common, group, or Department of Agriculture names are used are as follows:

Name	*Refers to—*
Aldrin	A product consisting of 95 percent of the compound 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-1,4,5,8-dimethanonaphthalene and 5 percent chlorinated hydrocarbons.
Chlordane	1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-4,7-methanoindene.
DDT	A product consisting of a complex mixture of 1,1,1-trichloro-2,2-bis (parachlorophenyl) ethane and 1,1,1,-trichloro-2-(orthochlorophenyl)-2-(parachlorophenyl) ethane.
Dieldrin	1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4,5,8-dimethanonaphthalene.
EPN	*O*-ethyl *O*-paranitrophenyl benezene thiophosphonate.
Ferbam	Ferric dimethyl dithiocarbamate.
Fluorine compounds	Cryolite, synthetic cryolite (sodium aluminum fluoride).
Heptachlor	1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene.
Lindane	The gamma isomer of benzene hexachloride.
Methoxychlor	2,2-bis(paramethoxyphenyl)-1,1,1-trichloroethane.
Nicotine compounds	Nicotine sulfate and other salts of nicotine; nicotine as the alkaloid.
Parathion	*O,O*-diethyl-*O*-paranitrophenyl thiophosphate.
TDE	1,1-dichloro-2,2-bis(parachlorophenyl) ethane.
TEPP	Tetraethyl pyrophosphate.
Toxaphene	Chlorinated camphene.
Zineb	Zinc ethylene bisdithiocarbamate.
Ziram	Zinc dimethyl dithiocarbamate.

(c) (1) Where a tolerance is established by this section for parathion, the methyl homologue of parathion may replace all or part of the parathion permitted by such tolerance.

(2) For the purposes of this section, where a tolerance of 5 parts per million for benzene hexachloride is set, it shall be deemed applicable to commercial benzene hexachloride, which is a mix-

ture of several isomers. If the gamma isomer, known as lindane, is used exclusively of other isomers, the tolerance shall be 10 parts per million.

(3) For the purposes of this section, where a tolerance is established for more than one pesticide containing arsenic, found on a fruit or vegetable, the total amount of such pesticides shall not yield more than 3.5 parts per million of As_2O_3 on the fruit or vegetable to which added.

(4) For the purposes of this section, where a tolerance is established for more than one metallic dithiocarbamate (ferbam, ziram, or zineb), the total amount of such metallic dithiocarbamates found on a fruit or vegetable shall not yield more than 7 parts per million of metallic dithiocarbamates, calculated as zinc ethylenebisdithiocarbamate.

(5) For the purposes of this section:

(i) The following compounds are members of the class of chlorinated hydrocarbons:

Aldrin.
Benzene hexachloride.
Chlordane.
Chlorinated camphene (toxaphene).
DDD (TDE or Rhothane).
DDT.
2,4-Dichlorophenoxy acetic acid.
Dieldrin.
Heptachlor.
Lindane.
Methoxychlor.

(ii) The following compounds are members of the class of organic phosphates:

EPN
Methyl homologue of parathion (Metacide).
Parathion.

(iii) The following compounds are members of the class of dinitro compounds: Dinitro-*O*-cyclohexylphenol; dicyclohexylamine salt of dinitro-*O*-cyclohexylphenol.

(iv) Except as noted in subdivisions (v) and (vi) of this subparagraph, where residues from two or more chemicals in the same class are present on a fruit or vegetable the tolerance for the total of such residues shall be the same as that for the chemicals having the lowest numerical tolerance in this class.

(v) Where residues from two or more chemicals in the same class are present in a fruit or vegetable and there are available methods that permit quantitative determination of each residue, the quantity of combined residues that are within the tolerance may be determined as follows:

(*a*) Determine the quantity of each residue present.

(*b*) Divide the quantity of each residue by the tolerance that would apply if it occurred alone, and multiply by 100 to determine the percentage of the permitted amount of residue present.

(*c*) Add the percentages so obtained for all residues present.

(*d*) The sum of the percentages shall not exceed 100 percent.

(vi) Where residues from two or more chemicals in the same class are present on a fruit or vegetable and there are available methods that permit quantitative determination of one or more, but not all, of the residues, the amounts of such residues as may be determinable shall be deducted from the total amount of residues present and the remainder shall have the same tolerance as that for the chemical having the lowest numerical tolerance in that class. The quantity of combined residues that are within the tolerance may be determined as follows:

(*a*) Determine the quantity of each determinable residue present.

(*b*) Deduct the amounts of such residues from the total amount of residue present and consider the remainder to have the same tolerance as that for the chemical having the lowest numerical tolerance in that class.

(*c*) Divide the quantity of each determinable residue by the tolerance that would apply if it occurred alone and the quantity of the remaining residue by the tolerance for the chemical having the lowest numerical tolerance in that class and multiply by 100 to determine the percentage of the permitted amount of residue present.

(*d*) Add the percentages so obtained for all residues present.

(*e*) The sum of the percentages shall not exceed 100 percent.

(d) Residues of the following poisonous or deleterious substances should not remain on fruits or vegetables as prepared for market:

Calcium cyanide.
Dinitro-*O*-sec. butylphenol.
Dinitro-*O*-cresol.
Hexaethyl tetraphosphate.
Tetraethyl pyrophosphate.
Hydrocyanic acid.
Mercury-containing compounds.
Selenium and selenium compounds.

(e) Each subparagraph of this paragraph lists, under the names of the fresh fruits and vegetables specified, the substances found to be required in their production and the tolerances for the residues of these substances remaining in or on such fresh fruits or vegetables. The abbreviation "p. p. m." means parts per million.

FRUITS

(1) *Apples, pears, and quinces.*

Pesticide	*Tolerance*
Benzene hexachloride	5 p. p. m.
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
2,4-Dichlorophenoxy acetic acid	5 p. p. m.
Dicyclohexylamine salt of dinitro-*O*-cyclohexylphenol.	1 p. p. m.
Dieldrin	0.1 p. p. m.
EPN	3 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
2-Heptadecyl glyoxalidine	5 p. p. m.
Lead arsenate	7 p. p. m. of combined lead.
Methoxychlor	14 p. p. m.
Naphthalene acetic acid	1 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
Phenothiazine	7 p. p. m.
TDE	7 p. p. m.
Toxaphene	7 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(2) *Apricots.*

Pesticide	*Tolerance*
Benzene hexachloride	5 p. p. m.
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
Dicyclohexylamine salt of dinitro-*O*-cyclohexylphenol.	1 p. p. m.
Dieldrin	0.1 p. p. m.
EPN	3 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Lead arsenate	7 p. p. m. of combined lead.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
TDE	7 p. p. m.
Toxaphene	7 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(3) *Avocados.*

Pesticide	*Tolerance*
Benzene hexachloride	5 p. p. m.
DDT	7 p. p. m.
Lead arsenate	7 p. p. m. of combined lead.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.

(4) *Blackberries.* For tolerances established for pesticide residues on blackberries, see subparagraph (27) of this paragraph.

FRUITS—continued

(5) *Blueberries (huckleberries).*

Pesticide	Tolerance
Calcium arsenate	3.5 p. p. m. of combined As_2O_3.
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Lead arsenate	7 p. p. m. of combined lead.
Methoxychlor	14 p. p. m.
Parathion	1 p. p. m.
TDE	7 p. p. m.
Ziram	7 p. p. m.

(6) *Cherries.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
Dicyclohexylamine salt of dinitro-*O*-cyclohexylphenol.	1 p. p. m.
Dieldrin	0.1 p. p. m.
EPN	3 p. p. m.
Ferbam	7 p. p. m.
2-Heptadecyl glyoxalidine	5 p. p. m.
Lead arsenate	7 p. p. m. of combined lead.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
TDE	7 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(7) *Citrus fruits (grapefruit, lemons, limes, oranges, tangerines).*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
2,4,Dichlorophenoxy acetic acid	5 p. p. m.
Dicyclohexylamine salt of dinitro-*O*-cyclohexylphenol.	1 p. p. m.
Dinitro-*O*-cyclohexylphenol	1 p. p. m.
EPN	3 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Lead arsenate	1 p. p. m. of combined lead.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
Tartar emetic	3.5 p. p. m. of combined antimony trioxide.
TDE	7 p. p. m.
Toxaphene	7 p. p. m.
Zineb	7 p. p. m.

(8) *Cranberries.*

Pesticide	Tolerance
DDT	7 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Lead arsenate	7 p. p. m. of combined lead.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

FRUITS—continued

(9) *Currants.*

Pesticide	Tolerance
DDT	7 p. p. m.
Ferbam	7 p. p. m.
Lead arsenate	7 p. p. m. of combined lead.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
Zineb	7 p. p. m.

(10) *Dates.*

Pesticide	Tolerance
Ferbam	7 p. p. m.
Parathion	1 p. p. m.

(11) *Figs.*

Pesticide	Tolerance
Parathion	1 p. p. m.

(12) *Gooseberries.*

Pesticide	Tolerance
DDT	7 p. p. m.
Ferbam	7 p. p. m.
Lead arsenate	7 p. p. m. of combined lead.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(13) *Grapefruit.* For tolerances established for pesticide residues on grapefruit, see subparagraph (7) of this paragraph.

(14) *Grapes.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
Dicyclohexylamine salt of dinitro-*O*-cyclohexylphenol.	1 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Lead arsenate	7 p. p. m. of combined lead.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
Sodium arsenate	3.5 p. p. m. of combined As_2O_3.
Tartar emetic	3.5 p. p. m. of combined antimony trioxide.
TDE	7 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(15) *Guavas.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
DDT	7 p. p. m.
Ferbam	7 p. p. m.
Parathion	1 p. p. m.
Zineb	7 p. p. m.

(16) *Lemons.* For tolerances established for pesticide residues on lemons, see subparagraph (7) of this paragraph.

(17) *Loganberries.* For tolerances established for pesticide residues on loganberries, see subparagraph (27) of this paragraph.

FRUITS—continued

(18) *Mangoes.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
DDT	7 p. p. m.
Ferbam	7 p. p. m.
Lead arsenate	7 p. p. m. of combined lead.
Parathion	1 p. p. m.

(19) *Nectarines.* For tolerances established for pesticide residues on nectarines, see subparagraph (22) of this paragraph.

(20) *Oranges.* For tolerances established for pesticide residues on oranges, see subparagraph (7) of this paragraph.

(21) *Papayas.*

Pesticide	Tolerance
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
Ferbam	7 p. p. m.

(22) *Peaches and nectarines.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
Dicyclohexylamine salt of dinitro-*O*-cyclohexylphenol.	1 p. p. m.
Dieldrin	0.1 p. p. m.
EPN	3 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Lead arsenate	7 p. p. m. of combined lead.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
TDE	7 p. p. m.
Toxaphene	7 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(23) *Pears.* For tolerances established for pesticide residues on pears, see subparagraph (1) of this paragraph.

(24) *Pinapples.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
EPN	3 p. p. m.
Methoxychlor	14 p. p. m.
Parathion	1 p. p. m.

(25) *Plums (fresh prunes).*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
Dicyclohexylamine salt of dinitro-*O*-cyclohexylphenol.	1 p. p. m.
EPN	3 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Lead arsenate	7 p. p. m. of combined lead.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
TDE	7 p. p. m.
Zineb	7 p. p. m.

FRUITS—continued

(26) *Quinces.* For tolerances established for pesticide residues on quinces, see subparagraph (1) of this paragraph.

(27) *Raspberries, blackberries, loganberries, and related berries.*

Pesticide	Tolerance
Calcium arsenate	3.5 p. p. m. of combined As_2O_3.
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
Dicyclohexylamine salt of dinitro-*O*-cyclohexylphenol.	1 p. p. m.
EPN	3 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
2-Heptadecyl glyoxalidine	5 p. p. m.
Lead arsenate	7 p. p. m. of combined lead.
Methoxylchlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
TDE	7 p. p. m.
Toxaphene	7 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(28) *Rhubarb.*

Pesticide	Tolerance
DDT	7 p. p. m.

(29) *Strawberries.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Calcium arsenate	3.5 p. p. m. of combined As_2O_3.
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
Dicyclohexylamine salt of dinitro-*O*-cyclohexylphenol.	1 p. p. m.
EPN	3 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Lead arsenate	7 p. p. m. of combined lead.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
TDE	7 p. p. m.
Toxaphene	7 p. p. m.
Zineb	7 p. p. m.

(30) *Tangerines.* For tolerances established for pesticide residues on tangerines, see subparagraph (7) of this paragraph.

VEGETABLES

(31) *Artichokes.*

Pesticide	Tolerance
DDT	7 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.

(32) *Asparagus.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Calcium arsenate	3.5 p. p. m. of combined As_2O_3.
DDT	7 p. p. m.
Ferbam	7 p. p. m.
Lead arsenate	7 p. p. m. of combined lead.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.

VEGETABLES—continued

(33) *Beans, green beans, snap beans, lima beans, and black-eyed peas.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Calcium arsenate	3.5 p. p. m. of combined As_2O_3.
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
Dicyclohexylamine salt of dinitro-O-cyclohexylphenol.	1 p. p. m.
EPN	3 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Magnesium arsenate	3.5 p. p. m. of combined As_2O_3.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
TDE	7 p. p. m.
Toxaphene	7 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(34) *Beets (with or without tops) or beet greens alone.*

Pesticide	Tolerance
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
EPN	3 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(35) *Black-eyed peas.* For tolerances established for pesticide residues on black-eyed peas, see subparagraph (33) of this paragraph.

(36) *Broccoli.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Calcium arsenate	3.5 p. p. m. of combined As_2O_3.
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
TDE	7 p. p. m.
Toxaphene	7 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(37) *Brussels sprouts.* For tolerances established for pesticide residues on brussels sprouts, see subparagraph (38) of this paragraph.

(38) *Cabbage, brussels sprouts, kohlrabi, cauliflower.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Calcium arsenate	3.5 p. p. m. of combined As_2O_3.
Chlordane	0.3 p. p. m.
Copper arsenate	3.5 p. p. m. of combined As_2O_3.
DDT	7 p. p. m.

VEGETABLES—continued

(38) *Cabbage, brussels sprouts, kohlrabi, cauliflower*—Continued

Pesticide	Tolerance
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
TDE	7 p. p. m.
Toxaphene	7 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(39) *Carrots (with or without tops) or carrot tops.*

Pesticide	Tolerance
Calcium arsenate	3.5 p. p. m. of combined As_2O_3.
Chlordane	0.3 p. p. m.
Copper arsenate	3.5 p. p. m. of combined As_2O_3.
DDT	7 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Parathion	1 p. p. m.
TDE	7 p. p. m.
Toxaphene	7 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(40) *Cauliflower.* For tolerances established for pesticide residues on cauliflower, see subparagraph (38) of this paragraph.

(41) *Celery.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Calcium arsenate	3.5 p. p. m. of combined As_2O_3.
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
Dicyclohexylamine salt of dinitro-O-cyclohexylphenol.	1 p. p. m.
Ferbam	7 p. p. m.
Lead arsenate	7 p. p. m. of combined lead.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
Toxaphene	7 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(42) *Collards.* For tolerances established for pesticide residues on collards, see subparagraph (47) of this paragraph.

(43) *Corn.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Calcium arsenate	3.5 p. p. m. of combined As_2O_3.
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
EPN	3 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
TDE	7 p. p. m.
Toxaphene	7 p. p. m.
Zineb	7 p. p. m.

VEGETABLES—continued

(44) *Cucumbers.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Calcium arsenate	3.5 p. p. m. of combined As_2O_3.
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
TDE	7 p. p. m.
Toxaphene	7 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(45) *Eggplants.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Calcium arsenate	3.5 p. p. m. of combined As_2O_3.
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Lead arsenate	7 p. p. m. of combined lead.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
TDE	7 p. p. m.
Toxaphene	7 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(46) *Endive and escarole.*

Pesticide	Tolerance
DDT	7 p. p. m.
Parathion	1 p. p. m.
Zineb	7 p. p. m.

(47) *Kale and collards.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Calcium arsenate	3.5 p. p. m. of combined As_2O_3.
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(48) *Kohlrabi.* For tolerances established for pesticide residues on kohlrabi, see subparagraph (38) of this paragraph.

(49) *Lettuce.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
EPN	3 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Methoxychlor	14 p. p. m.

VEGETABLES—continued

(49) *Lettuce*—Continued

Pesticide	Tolerance
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
TDE	7 p. p. m.
Toxaphene	7 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(50) *Lima beans.* For tolerances established for pesticide residues on lima beans, see subparagraph (33) of this paragraph.

(51) *Melons, including cantaloupes, muskmelons, watermelons, and other melons.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Calcium arsenate	3.5 p. p. m. of combined As_2O_3.
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
TDE	7 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(52) *Mushrooms.*

Pesticide	Tolerance
DDT	7 p. p. m.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.

(53) *Mustard greens.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
DDT	7 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
Zineb	7 p. p. m.

(54) *Okra.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
Toxaphene	7 p. p. m.

(55) *Onions.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Chlordane	0.3 p. p. m.
Dieldrin	0.1 p. p. m.
DDT	7 p. p. m.
Ferbam	7 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
Tartar emetic	3.5 p. p. m. of combined antimony trioxide.
Toxaphene	7 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

VEGETABLES—continued

(56) *Parsley.*

Pesticide	Tolerance
Nicotine-containing compounds	2 p. p. m. of nicotine.
Zineb	7 p. p. m.

(57) *Parsnips (with or without tops) or parsnip greens alone.*

Pesticide	Tolerance
DDT	7 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.

(58) *Peanuts.*

Pesticide	Tolerance
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Parathion	1 p. p. m.
Toxaphene	7 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(59) *Peas.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
TDE	7 p. p. m.
Toxaphene	7 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(60) *Peppers.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Calcium arsenate	3.5 p. p. m. of combined As_2O_3.
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Lead arsenate	7 p. p. m. of combined lead.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
TDE	7 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(61) *Potatoes.* Tolerances are not needed for those pesticides applied only to the foliage of potatoes and that are not translocated to the tubers.

Pesticide	Tolerance
Aldrin	0.1 p. p. m.
Chlordane	0.3 p. p. m.
Heptachlor	0.1 p. p. m.

(62) *Pumpkins.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Calcium arsenate	3.5 p. p. m. of combined As_2O_3.
DDT	7 p. p. m.

VEGETABLES—continued

(62) *Pumpkins*—Continued

Pesticide	Tolerance
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
TDE	7 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(63) *Radishes (with or without tops) or radish tops.*

Pesticide	Tolerance
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
TDE	7 p. p. m.
Toxaphene	7 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(64) *Rutabagas (with or without tops) or rutabaga tops.* For tolerances established for pesticide residues on rutabagas, see subparagraph (71) of this paragraph.

(65) *Salsify.*

Pesticide	Tolerance
Zineb	7 p. p. m.

(66) *Spinach.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Calcium arsenate	3.5 p. p. m. of combined As_2O_3.
DDT	7 p. p. m.
EPN	3 p. p. m.
Ferbam	7 p. p. m.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
TDE	7 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(67) *Squash, summer squash.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Calcium arsenate	3.5 p. p. m. of combined As_2O_3.
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined fluorine.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
TDE	7 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(68) *Sweetpotatoes.* Tolerances are not needed for those pesticides applied only to foliage of sweetpotatoes and which are not translocated to the tubers.

Pesticide	Tolerance
Aldrin	0.1 p. p. m.

VEGETABLES—continued

(69) *Swiss chard.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
DDT	7 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
TDE	7 p. p. m.
Zineb	7 p. p. m.

(70) *Tomatoes.*

Pesticide	Tolerance
Benzene hexachloride	5 p. p. m.
Calcium arsenate	3.5 p. p. m. of combined As_2O_3.
Chlordane	0.3 p. p. m.
Copper arsenate	3.5 p. p. m. of combined As_2O_3.
DDT	7 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined flourine.
Lead arsenate	7 p. p. m. of combined lead.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
TDE	7 p. p. m.
Toxaphene	7 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(71) *Turnips or rutabagas (with or without tops) or turnip greens or rutabaga tops.*

Pesticide	Tolerance
Calcium arsenate	3.5 p. p. m. of combined As_2O_3.
Chlordane	0.3 p. p. m.
DDT	7 p. p. m.
EPN	3 p. p. m.
Ferbam	7 p. p. m.
Fluorine compounds	7 p. p. m. of combined flourine.
Methoxychlor	14 p. p. m.
Nicotine-containing compounds	2 p. p. m. of nicotine.
Parathion	1 p. p. m.
TDE	7 p. p. m.
Zineb	7 p. p. m.
Ziram	7 p. p. m.

(f) In accordance with section 408 (k) of the Federal Food, Drug, and Cosmetic Act, these tolerances shall be deemed also tolerances under section 408.

Effective date. This order shall become effective 90 days after the date of publication in the FEDERAL REGISTER.

(Sec. 701, 52 Stat. 1055; 21 U. S. C. 371. Interprets or applies secs. 406, 408, 52 Stat. 1049, 68 Stat. 511; 21 U. S. C. 346, 348)

Dated: March 3, 1955.

[SEAL] OVETA CULP HOBBY,
Secretary.

[F. R. Doc. 55-1999; Filed, Mar. 10, 1955; 8:45 a. m.]

TITLE 6—AGRICULTURAL CREDIT

Chapter III—Farmers Home Administration, Department of Agriculture

Subchapter B—Farm Ownership Loans

PART 311—BASIC REGULATIONS

SUBPART B—LOAN LIMITATIONS

AVERAGE VALUES OF FARMS; ARIZONA AND NEW MEXICO

For the purposes of title I of the Bankhead-Jones Farm Tenant Act, as amended, average values of efficient family-type farm-management units for the counties identified below are determined to be as herein set forth. The average values heretofore established for said counties, which appear in the tabulations of average values under § 311.29, Chapter III, Title 6 of the Code of Federal Regulations, are hereby superseded by the average values set forth below for said counties.

ARIZONA

County:	Average values
Coconino	$15,000
Mohave	22,000
Yavapai	22,000

NEW MEXICO

Curry	$28,000
Otero	20,000
Roosevelt	22,000
San Juan	25,000
Socorro	25,000
Torrance	25,000

(Sec. 41 (i), 60 Stat. 1066; 7 U. S. C. 1015 (i). Interprets or applies sec. 3 (a), 60 Stat. 1074; 7 U. S. C. 1003 (a))

Dated this 4th day of March 1955.

[SEAL] R. B. MCLEAISH,
Administrator,
Farmers Home Administration.

[F. R. Doc. 55-2059; Filed, Mar. 10, 1955; 8:47 a. m.]

PART 311—BASIC REGULATIONS

SUBPART B—LOAN LIMITATIONS

AVERAGE VALUES OF FARMS; MAINE

For the purpose of title I of the Bankhead-Jones Farm Tenant Act, as amended, average values of efficient family-type farm-management units for the counties identified below are determined to be as herein set forth. The average values heretofore established for said counties, which apear in the tabulations of average values under § 311.29, Chapter III, Title 6 of the Code of Federal Regulations, are hereby superseded by the average values set forth below for said counties.

MAINE

County:	Average values
Cumberland	$15,000
Knox	12,000
Lincoln	12,000
Sagadohoc	10,000
Washington	12,000
York	15,000

(Sec. 41 (i), 60 Stat. 1066; 7 U. S. C. 1015 (i). Interprets or applies sec. 3 (a), 60 Stat. 1074; 7 U. S. C. 1003 (a))

Issued this 4th day of March 1955.

[SEAL] R. B. MCLEAISH,
Administrator,
Farmers Home Administration.

[F. R. Doc. 55-2060; Filed, Mar. 10, 1955; 8:47 a. m.]

TITLE 7—AGRICULTURE

Chapter VII—Commodity Stabilization Service (Farm Marketing Quotas and Acreage Allotments), Department of Agriculture

PART 728—WHEAT

SUBPART—1955-56 MARKETING YEAR

INCREASED CLASS II DURUM WHEAT ALLOTMENTS

Basis and purpose. The amendments herein are issued pursuant to and in accordance with the Agricultural Adjustment Act of 1938, as amended, and govern the establishment of increased 1955 farm wheat acreage allotments and marketing quotas in designated counties for the purpose of increasing the production of Durum Wheat (Class II) for 1955.

In making the determination of counties designated in § 728.529 the durum wheat acreage estimates of the Agricultural Marketing Service, the statistics on the production of durum wheat by varieties in 1944, 1949, and 1954 from special surveys made by the Agricultural Marketing Service and Agricultural Research Service cooperating, farm data collected by county ASC committees under the 1954 program for increased production of Durum Wheat (Class II) under the provisions of Public Law 290, 83d Congress, and Durum Wheat (Class II) production as reported by the grain trade and wheat producers were used to determine whether Durum Wheat (Class II) has been produced for commercial food products in one or more of the ten years 1945 through 1954. The capability of counties to produce Durum Wheat (Class II) was determined on the basis of reports from agronomists and experiment stations, and as evidenced by the fact that such wheat has been produced for commercial food products in such counties. It is hereby found and determined that the aforesaid estimates, data, and information constitute the

latest available statistics of the Federal Government for the purposes of the determination of counties in § 728.529.

In order that producers may proceed with plans for seeding Durum Wheat (Class II) and other classes of wheat as expeditiously as possible, it is hereby found that compliance with the public notice, procedure, and 30-day effective date provisions of section 4 of the Administrative Procedure Act is impracticable and contrary to the public interest. Therefore, the amendments herein shall become effective upon filing of this document with the Director, Division of the Federal Register.

Section 728.511 of the regulations pertaining to farm acreage allotments for the 1955 crop of wheat is amended by adding a new paragraph (q) to read as follows:

(q) "Durum Wheat (Class II)" means the three sub-classes of Durum Wheat (Class II) specified in the Official Grain Standards of the United States for Wheat (§§ 26.101 to 26.121 of this title) which are: Sub-class (A) Hard Amber Durum; Sub-class (B) Amber Durum; and Sub-class (C) Durum.

A new § 728.529 is added to read as follows:

§ 728.529 *Increase in acreage allotments for production of Durum Wheat (Class II).* (a) (1) The maximum acreage allotment established under the provisions of § 728.529 for any farm in any of the approved Class II Durum Wheat counties designated in paragraph (b) of this section shall be the acreage of cropland on the farm well suited to the production of wheat.

(2) A notification showing the maximum wheat acreage allotment for the farm under this section shall be issued by the County committee on Form GR-308 Wheat (1955) Supplement, upon request of the operator or any other producer on the farm.

(3) The final allotment for the farm shall be established under this section, upon proof of performance, as follows: (i) If the total of all wheat acreage for 1955 does not exceed the present allotment (established for the farm under the provisions of §§ 728.510 to 728.528) the final allotment will be the present allotment; (ii) if the 1955 acreage of wheat other than Durum Wheat (Class II) is more than the present allotment, the final allotment will be the present allotment plus the acreage of Durum Wheat (Class II), but shall not exceed the cropland well suited to wheat; (iii) if the 1955 acreage of wheat other than Durum Wheat (Class II) does not exceed the present allotment and the total 1955 wheat acreage is greater than the present allotment, the final allotment will be equal to the 1955 wheat acreage on the farm but shall not exceed the cropland well suited to wheat.

(4) The additional acreage required for farm allotments under this section shall be in addition to the national, State, and county acreage allotments and the acreage of Durum Wheat (Class II) thereon shall not be considered in establishing future State, county, and farm acreage allotments.

(5) The last sentence of § 728.523 shall not be applicable to farm acreage allotments established under this section.

(b) Approved Durum Wheat (Class II) counties are counties which (1) are capable of producing Durum Wheat (Class II) and (2) have produced such wheat for commercial food products during one or more of the ten years 1945 through 1954, as follows:

North Dakota: All counties.

South Dakota: All counties except Lawrence.

Minnesota: Becker, Beltrami, Big Stone, Chippewa, Clay, Clearwater, Douglas, Grant, Hubbard, Kandiyohi, Kittson, Lac qui Parle, Lake of the Woods, Lincoln, Lyon, Mahnomen, Marshall, Norman, Otter Tail, Pennington, Polk, Pope, Red Lake, Redwood, Renville, Roseau, Stearns, Stevens, Swift, Todd, Traverse, Wadena, Wilkin, Yellow Medicine.

Montana: Blaine, Broadwater, Cascade, Chouteau, Custer, Daniels, Dawson, Fallon, Fergus, Gallatin, Garfield, Glacier, Hill, Judith Basin, Liberty, McCone, Musselshell, Petroleum, Phillips, Pondera, Prairie, Richland, Roosevelt, Rosebud, Sheridan, Teton, Toole, Valley, Wibaux.

(Sec. 375, 52 Stat. 66, as amended; 7 U. S. C. 1375. Interpret or apply sec. 334, 52 Stat. 53, as amnded, Public Law 8, 84th Cong.; 7 U. S. C. 1334)

Done at Washington, D. C., this 8th day of March 1955. Witness my hand and the seal of the Department of Agriculture.

[SEAL] J. A. McCONNELL,
Acting Secretary.

[F. R. Doc. 55-2070; Filed, Mar. 10, 1955; 8:49 a. m.]

TITLE 22—FOREIGN RELATIONS

Chapter I—Department of State

[Dept. Reg. 108.249]

PART 75—INTERNATIONAL TRAFFIC IN ARMS, AMMUNITION, AND IMPLEMENTS OF WAR

MISCELLANEOUS AMENDMENTS

The regulations governing the international traffic in arms, ammunition, and implements of war issued on November 25, 1953, as amended, are further amended, effective April 1, 1955, as follows:

1. Sections 75.51, 75.52, and 75.53 relating to fees for licenses are hereby rescinded.

2. Section 75.13 is amended to read:

§ 75.13 *Application for registration.* (a) Applications for registration shall be submitted to the Secretary of State on forms prescribed by him and shall be accompanied by a registration fee in the form of a postal money order or a check payable to the Department of State.

(b) Registration can be effected for periods of one year or four years upon payment of a fee of $75.00 or $300.00 respectively at the option of the registrant.

3. Section 75.14 is amended to read:

§ 75.14 *Certificate of registration.* (a) Upon receipt of an application for registration properly executed, accompanied by the registration fee, the Secretary of State shall issue to the applicant a certificate of registration valid for one year if $75.00 is paid or for four years if $300.00 is paid. Certificates of registration are not transferable, and no portion of the registration fee may be refunded. Certificates of registration are renewable for a further period of one year if a renewal fee of $75.00 is paid or for four years if a renewal fee of $300.00 is paid and the fee payment is accompanied by an application for registration properly executed on the prescribed form.

(b) Registration certificates issued prior to April 1, 1955, shall remain in effect during the period of validity indicated therein, without any additional fee being required.

(Sec. 12, 54 Stat. 10; 22 U. S. C. 452. Proc. 3038, 18 F. R. 7505; 3 CFR, 1953 Supp.)

Dated: March 7, 1955.

For the Acting Secretary of State.

SCOTT McLEOD,
Administrator, Bureau of Security and Consular Affairs.

[F. R. Doc. 55-2066; Filed, Mar. 10, 1955; 8:48 a. m.]

NOTICES

DEPARTMENT OF THE INTERIOR

Bureau of Reclamation

[Public Announcement 22]

COLUMBIA BASIN PROJECT, WASH.

SALE OF FULL-TIME FARM UNITS

FEBRUARY 21, 1955.

Columbia Basin Project, Washington, Quincy-Columbia Basin Irrigation District; public announcement of the sale of full-time farm units.

LANDS COVERED

SECTION 1. *Offer of farm units for sale.* It is hereby announced that certain farm units in the Quincy-Columbia Basin Irrigation District, Columbia Basin Project, Washington, will be sold to qualified applicants in accordance with the provisions of this announcement. Applications to purchase farm units may be submitted beginning at 2 p. m., March 11, 1955.

In order to permit the continued orderly development and settlement of project lands, this public announcement is issued irrespective of there being pending applications for exchange pursuant to the act of August 13, 1953 (67 Stat. 566).

a. *Farm units presently owned.* The farm units which are presently owned by the United States, and hereby offered for sale, are described as follows:

Irrigation block No.	Farm unit No.	Total acreage	Tentative irrigable acreage				Nonirrigable	Price
			Total	Class 1	Class 2	Class 3		
86	31	79.3	69.5	41.3	20.7	7.5	9.8	$1,116.20
	33	93.3	80.0	25.1	44.0	10.9	13.3	1,257.40
	34	99.8	85.0	13.3	69.0	2.7	14.8	1,303.30
	35	81.4	74.5	53.9	20.6	----------	6.9	1,124.40
	37	81.7	78.5	43.5	32.8	2.2	3.2	1,592.80
	78	80.1	77.1	46.5	30.6	----------	3.0	1,352.25
	79	95.6	84.5	13.7	60.5	10.3	11.1	1,384.40
	85	99.7	84.4	21.6	59.4	3.4	15.3	1,414.50
	86	104.8	80.0	22.6	45.3	12.1	24.8	1,397.60
	87	102.5	99.5	27.2	72.3	----------	3.0	1,495.50
	89	115.7	93.2	56.4	31.4	5.4	22.5	2,067.40
	90	98.8	77.2	8.8	68.1	.3	21.6	1,353.30
87	18	79.3	72.3	67.3	1.5	3.5	7.0	1,823.50
	78	73.9	65.9	40.3	25.6	----------	8.0	1,041.30
	80	74.7	71.9	61.6	10.3	----------	2.8	1,440.80
	84	136.5	76.4	36.1	35.0	5.3	60.1	1,483.60
	108	104.0	94.8	28.6	49.0	17.2	9.2	1,485.80
	112	124.5	117.3	6.0	97.0	14.3	7.2	1,444.50
	113	104.8	63.5	24.0	7.3	32.2	41.3	1,126.40
	114	106.1	87.4	17.4	53.0	17.0	18.7	1,430.50
	123	85.8	72.1	60.0	7.8	4.3	13.7	1,843.20
	131	82.2	76.8	39.6	32.2	5.0	5.4	1,939.80
	132	82.0	79.6	66.1	13.5	----------	2.4	1,992.40
	138	82.6	75.8	36.8	24.3	14.7	6.8	1,493.00
	139	87.8	81.5	16.3	50.1	15.1	6.3	1,665.10
	145	78.1	72.5	70.9	1.6	----------	5.6	1,839.70
	149	78.7	74.0	44.6	25.7	3.7	4.7	1,118.30
	154	86.0	82.6	17.8	62.7	2.1	3.4	1,245.10
	155	99.8	96.5	36.3	55.6	4.6	3.3	1,450.80
	160	89.2	76.9	----------	48.9	28.0	12.3	1,222.50
	161	115.3	77.0	10.3	20.7	46.0	38.3	1,265.50
	162	98.9	83.3	29.9	37.9	15.5	15.6	1,347.90
	195	94.9	88.6	38.3	48.1	2.2	6.3	1,335.30
	196	99.7	92.1	----------	85.2	6.9	7.6	1,142.50
	197	93.3	86.2	20.6	65.6	----------	7.1	1,060.40
	198	92.4	77.3	28.9	42.4	6.0	15.1	1,249.30
	199	100.8	83.8	42.8	41.0	----------	17.0	1,364.00
	200	93.1	81.8	39.7	42.1	----------	11.3	1,255.40
	201	84.7	73.3	48.6	24.7	----------	11.4	1,148.70
	211	103.4	89.8	22.4	49.0	18.4	13.6	1,143.40
	212	110.2	89.8	7.1	38.7	44.0	20.4	1,206.90
	213	103.3	89.6	8.5	62.6	18.5	13.7	1,185.20
	214	84.1	73.1	41.2	31.9	----------	11.0	1,160.60
	215	83.4	78.2	52.9	25.3	----------	5.2	1,180.90
	216	84.1	79.0	55.4	23.6	----------	5.1	1,190.10
	217	104.2	97.3	13.5	54.3	29.5	6.9	1,197.00
	225	180.0	81.3	----------	54.0	27.3	98.7	1,923.90

b. *Additional farm units.* If, through the operation of its land acquisition program, the United States should, following the date of this announcement and prior to the date on which the first farm unit is offered for selection to an applicant under the provisions hereof, own additional farm units in Irrigation Blocks 86 and 87 and in other irrigation blocks in the Quincy-Columbia Basin Irrigation District which are scheduled to receive water before the close of the 1956 irrigation season; such farm units may be offered for sale under the provisions of this announcement.

The official plats of these irrigation blocks are on file in the office of the County Auditors of Grant County and Adams County at Ephrata, and Ritzville, Washington, and copies are on file in the offices of the Bureau of Reclamation at Ephrata, Washington, and Boise, Idaho.

SEC. 2. *Limit of acreage which may be purchased.* The lands covered by this announcement have been divided into farm units. Each of the farm units represents the acreage which, in the opinion of the Regional Director, Region 1, Bureau of Reclamation, will support an average size family at a suitable level of living. The law provides that with certain minor exceptions not more than one farm unit in the entire project may be held by any one owner or family. A family is defined as comprising husband or wife, or both, together with their children under 18 years of age, or all of such children if both parents are dead.

PREFERENCE OF APPLICANTS

SEC. 3. *Nature of preference.* Except for a prior preference given applicants for exchange under the provisions of the act of August 13, 1953 (67 Stat. 566), preference right to purchase of farm units described above will be given to veterans (and in some cases to their husbands or wives or guardians of minor children) who submit applications during a 45-day period beginning at 2 p. m., March 11, 1955, and ending at 2 p. m., April 25, 1955, and who, at the time of making application, are in one of the following five classes:

a. Persons, including those under 21 years of age, who have served in the Army, Navy, Marine Corps, Air Force, or Coast Guard of the United States for a period of at least ninety (90) days at any time between September 16, 1940, and January 31, 1955, inclusive, and have been honorably discharged.

b. Persons, including those under 21 years of age, who have served in the Army, Navy, Marine Corps, Air Force, or Coast Guard of the United States during the period prescribed in subsection a. of this section regardless of length of service, and who have been discharged on account of wounds received or disability incurred during such period in the line of duty, or subsequent to a regular discharge, have been furnished hospitalization or awarded compensation by the Government on account of such wounds or disability.

c. The spouse of any person in either of the first two classes listed in this section, if the spouse has the consent of such person to exercise his or her preference right. (See subsection 7.c. of this announcement regarding the provision that a married woman must be head of a family.)

d. The surviving spouse of any person in either of the first two classes listed in this section, or in the case of the death or marriage of such spouse, the minor child or children of such person by guardian duly appointed and qualified and who furnishes to the examining board acceptable evidence of such appointment and qualification.

e. The surviving spouse of any person whose death has resulted from wounds received or disability incurred in the line of duty while serving in the Army, Navy, Marine Corps, Air Force, or Coast Guard during the period described in subsection a. of this section, or in the case of death or marriage of such spouse, the minor child or children of such person by a guardian duly appointed and qualified and who furnishes to the examining board acceptable evidence of such appointment and qualification.

SEC. 4. *Definition of honorable discharge.* An honorable discharge means:

a. Separation from the service by means of an honorable discharge or by the acceptance of resignation or a discharge under honorable conditions.

b. Release from active duty under honorable conditions to an inactive status, whether or not in a reserve component or retirement.

Any person who obtains an honorable discharge as herein defined shall be entitled to veterans preference even though such person thereafter resumes active military duty.

QUALIFICATIONS REQUIRED OF PURCHASERS

SEC. 5. *Examining board.* An examining board of three members has been appointed by the Regional Director, Region 1, Bureau of Reclamation, to determine the qualifications and fitness of applicants to undertake the purchase, development, and operation of a farm on the Columbia Basin Project. The board will make careful investigations to verify the statements and representations made by applicants. Any false statements may constitute grounds for rejection of an application and cancellation of the applicant's right to purchase a farm unit.

SEC. 6. *Minimum qualifications.* Certain minimum qualifications have been established which are considered necessary for the successful development of farm units. Applicants must meet these qualifications in order to be eligible for the purchase of farm units. Failure to meet them in any single respect will be sufficient cause for rejection of an application. No added credit will be given for qualifications in excess of the required minimum. The minimum qualifications are as follows:

a. *Character and industry.* An applicant must be possessed of honesty, temperate habits, thrift, industry, seriousness of purpose, record of good moral conduct, and a bona fide intent to engage in farming as an occupation.

b. *Farm experience.* Except as otherwise provided in this subsection, an applicant must have had a minimum of two years (24 months) of full-time farm experience, which shall consist of participation in actual farming operations, after attaining the age of 15 years. Time spent in agricultural courses in an accredited agricultural college or time spent in work closely associated with farming, such as teaching vocational agriculture, agricultural extension work, or field work in the production or marketing of farm products, which, in the opinion of the board will be of value to an applicant in operating a farm, may be substituted for full-time farm experience. Such substitution shall be on the basis of one year (academic year of at least nine months) of agricultural college courses or one year (twelve months) of work closely associated with farming for six months of full-time farm experience. Not more than one year of full-time farm experience of this type will be allowed. A farm youth who actually resided and worked on a farm after attaining the age of 15 and while attending school may credit such experience as full-time experience.

Applicants who have acquired their experience on an irrigated farm will not be given preference over those whose experience was acquired on a nonirrigated farm, but all applicants must have had farm experience of such nature as in the judgment of the examining board will qualify the applicant to undertake the development and operation of an irrigated farm by modern methods.

c. *Health.* An applicant must be in such physical condition as will enable him to engage in normal farm labor.

d. *Capital.* An applicant must possess assets worth at least $4,500 in excess of liabilities. Assets must consist of cash, property readily convertible into cash or property such as livestock, farm machinery and equipment, which, in the opinion of the board, will be useful in the development and operation of a new, irrigated farm. In considering the practical value of property which will be useful in the development of a farm, the board will not value household goods at more than $500 or a passenger car at more than $500. Assets not useful in the development of a farm will be considered if the applicant furnishes, at the board's request, evidence of the value of the property and proof of its conversion into useful form before execution of a purchase contract.

SEC. 7. *Other qualifications required.* Each applicant (except guardian) must meet the following requirements:

a. Be a citizen of the United States or have declared an intention to become a citizen of the United States.

b. Not own outright, or control under a contract to purchase, more than ten acres of crop land or a total of 160 acres of land at the time of execution of a purchase contract for a farm unit.

c. If a married woman, or a person under 21 years of age who is not eligible for veterans preference, be the head of a family. The head of a family is ordinarily the husband, but a wife or a minor child who is obliged to assume major responsibility for the support of a family may be the head of a family.

WHERE AND HOW TO SUBMIT AN APPLICATION

SEC. 8. *Filing application blanks.* Any person desiring to purchase a farm unit offered for sale by this announcement must fill out the attached application blank [1] and file it with the Land Settlement Branch, Bureau of Reclamation, Ephrata, Washington, in person or by mail. Additional application blanks may be obtained from the office of the Bureau of Reclamation at Ephrata, Washington; Post Office Box 937, Boise, Idaho; or Washington, D. C. No advantage will accrue to an applicant who presents an application in person. Each application submitted, including the evidence of qualification to be submitted following the public drawing, will become a part of the records of the Bureau of Reclamation and cannot be returned to the applicant.

SELECTION OF QUALIFIED APPLICANTS

SEC. 9. *Priority of applications.* All applications except those received from qualified exchange applicants prior to 2 p. m., April 25, 1955, which shall be given prior preference, will be classified for priority purposes as follows:

a. *First priority group.* All complete applications filed prior to 2 p. m., April 25, 1955, by applicants who claim veterans preference. All such applications will be treated as simultaneously filed.

b. *Second priority group.* All complete applications filed prior to 2 p. m., April 25, 1955, by applicants who do not claim veterans preference. All such applications will be treated as simultaneously filed.

c. *Third group.* All complete applications filed after 2 p. m., April 25, 1955. Such applications will be considered in the order in which they are filed if any farm units are available for sale to applicants within this group.

SEC. 10. *Public drawing.* After the priority classification, the board will conduct a public drawing of the names of the applicants in the First Priority Group as defined in subsection 9. a. of this announcement. Applicants need not be present at the drawing to participate therein. The names of a sufficient number of applicants (not less than four times the number of farm units to be offered for sale) shall be drawn and numbered consecutively in the order drawn for the purpose of establishing the order in which the applications drawn will be examined by the board to determine whether the applicants meet the minimum qualifications prescribed in this announcement, and to establish the priority of qualified applicants for the selection of farm units. After such drawing, the board shall notify each applicant of his respective standing as a result of the drawing.

SEC. 11. *Submission of evidence of qualification.* After the drawing, a sufficient number of applicants, in the order of their priority as established by the drawing, will be supplied with forms on which to submit evidence of qualification, showing that they meet the qualifications set forth in sections 6 and 7 of this announcement and, in case veterans preference is claimed, establishing proof of such preference, as set forth in section 3 of this announcement. Full and accurate answers must be made to all questions. The completed form must be mailed or delivered to the Land Settlement Branch, Bureau of Reclamation, Ephrata, Washington, within 20 days of the date the form is mailed to the last address furnished by the applicant. Failure of an applicant to furnish all of the information requested or to see that information is furnished by his references within the time period specified will subject his application to rejection.

SEC. 12. *Examination and interview.* After the information outlined in section 11 of this announcement has been received or the time for submitting such statements has expired, the board shall examine in the order drawn a sufficient number of applications together with the evidence of qualification submitted to determine the applicants who will be permitted to purchase farm units. This examination will determine the sufficiency, authenticity, and reliability of the information and evidence submitted by the applicants.

If the applicant fails to supply any of the information required or the board finds that the applicant's qualifications do not meet the requirements prescribed in this announcement, the applicant shall be disqualified and shall be notified by the board, by registered mail, of such disqualification and the reasons therefor and of the right to appeal to the Regional Director, Region 1, Bureau of Reclamation. All appeals must be received in the office of the Land Settlement Branch, Bureau of Reclamation, Ephrata, Washington, within 15 days of the applicant's receipt of such notice or, in any event, within 30 days from the date when the notice is mailed to the last address furnished by the applicant. The Land Settlement Branch will promptly forward the appeal to the Regional Director.

If the examination indicates that an applicant is qualified, the applicant may be required to appear for a personal interview with the board for the purpose of: (a) Affording the board any additional information it may desire relative to his qualifications; (b) affording the applicant any information desired relative to conditions in the area and the problems and obligations relative to development of a farm unit; and (c) affording the applicant an opportunity to examine the farm units.

If an applicant fails to appear before the board for a personal interview on the date requested, he will thereby forfeit his priority position as determined by the drawing.

If the board finds that an applicant's qualifications fulfill the requirements prescribed in this announcement, such applicant shall be notified, in person or by registered mail, that he is a qualified applicant and shall be given an opportunity to select one of the farm units available then for purchase. Such notice will require the applicant to make a field examination of the farm units

[1] Not filed as part of the original document.

available to him and in which he is interested, to select a farm unit, and to notify the board of such selection within the time specified in the notice.

SELECTION OF FARM UNITS

SEC. 13. *Order of selection.* The applicants who have been notified of their qualification for the purchase of a farm unit will successively exercise the right to select a farm unit in accordance with the priority established by the drawing. If a farm unit becomes available through failure of a qualified applicant to exercise his right of selection or failure to complete his purchase, it will be offered to the next qualified applicant who has not made a selection at the time the unit is again available. An applicant who is considered to be disqualified as a result of the personal interview will be permitted to exercise his right to select, notwithstanding his disqualification, unless he voluntarily surrenders this right in writing. If, on appeal, the action of the board in disqualifying an applicant as a result of the personal interview is reversed by the Regional Director, the applicant's selection shall be effective, but if such action of the board is upheld by the Regional Director, the farm unit selected by this applicant will become available for selection by qualified applicants who have not exercised their right to select.

If any of the farm units listed in this announcement remain unselected after all qualified applicants whose names were selected in the drawing have had an opportunity to select a farm unit, and if additional applicants remain in the first priority group, the board will follow the same procedure outlined in section 10 of this announcement in the selection of additional applicants from this group.

If any of the farm units remain unselected after all qualified applicants in the first priority group have had an opportunity to select a farm unit, the board will follow the same procedure to select applicants from the second priority group, and they will be permitted to exercise their right to select a farm unit in the manner prescribed for the qualified applicants from the first priority group.

Any farm units remaining unselected after all qualified applicants in the second priority group have had an opportunity to select a farm unit will be offered to applicants in the third group in the order in which their applications were filed, subject to the determination of the board, made in accordance with the procedure prescribed herein, that such applicants meet the minimum qualifications prescribed in this announcement.

If any farm units offered by or under this announcement remain unsold for a period of two years following the date of this announcement, the Project Manager, Columbia Basin Project, Bureau of Reclamation, may sell, lease, or otherwise dispose of such units to qualified applicants without regard to the provisions of section 10 of this announcement.

SEC. 14. *Failure to select.* If any applicant refuses to select a farm unit or fails to do so within the time specified by the board, such applicant shall forfeit his position in his priority group and his name shall be placed last in that group.

PURCHASE OF SELECTED UNIT

SEC. 15. *Execution of purchase contract.* When a farm unit is selected by an applicant as provided in section 13 of this announcement, the Project Manager will promptly give the applicant a written notice confirming the availability to him of the unit selected and will furnish the necessary purchase contract, together with instructions concerning its execution and return. In that notice the Project Manager will also inform the applicant of the amount of the irrigation charges assessed by the Quincy-Columbus Basin Irrigation District or, if such charges have not been assessed, of an estimate of the amount of the charges for the first year of the development period, to be deposited with the Secretary, Quincy-Columbia Basin Irrigation District.

If the purchase is made subsequent to April 1 of any year during the development period, a deposit will be required to cover payment of water charges for the balance of that year as well as for the year following the purchase.

SEC. 16. *Terms of sale.* Contracts for the sale of farm units pursuant to this announcement will contain, among others, the following principal provisions:

a. *Down payment.* An initial or down payment of not less than 20 percent of the purchase price of the lands being purchased from the United States will be required. Larger proportions, or the entire amount of the price, may be paid initially at the purchaser's option.

b. *Schedule for payment of balance; interest rate.* If only a portion of the purchase price is paid initially, the remainder will be payable within a period of 20 years following the date of the contract. No payments on the principal except the down payment, will be required during the first three years and the Project Manager may postpone such payments for as long as the first five years of the contract. Interest on the unpaid balance at the rate of three per cent per annum, however, will be payable annually. When payments on the principal are resumed, they will be payable each year. The schedule of principal payments, which will be established by the Project Manager, will provide for relatively small payments during the first years and larger payments during the later years of the contract period. Payment of any or all installments, or any portion thereof, may be made before their due dates at the purchaser's option.

c. *Development requirements.* In order that the irrigable area of the entire farm unit shall be developed with reasonable dispatch, each purchaser will be required, as a minimum, to clear, level, irrigate, and plant to crops by the end of each of the calendar years indicated below, and to maintain in crops thereafter, the following percentages of irrigable land as tentatively or finally classified:

Size of farm unit in irrigable acres	Percentage of land classified tentatively or finally as irrigable to be developed by end of each year. (Period will begin with year of purchase if contract is executed and water is available on or before May 1 of that year; otherwise period will begin with the next calendar year.)			
	2d year	3d year	4th year	5th year
10 to 40	75	----------	----------	----------
41 to 60	50	75	----------	----------
61 to 80	50	65	75	----------
81 to 100	40	60	65	75
101 to 160	35	50	65	75

d. *Residence requirements.* A major objective of the settlement program for the Columbia Basin Project is to assist and encourage the permanent settlement of farm families. In keeping with this objective, each purchaser will be required to do the following with respect to residence: (1) Within one year from the date of his contract, or within one year from the date that water is available to the irrigation block in which the farm unit is located, whichever is later, to initiate residence by actually moving onto the unit, such residence to be maintained by living thereon for not less than 12 months within an 18-month period following the initial date of residence, and (2) before receiving title to the unit under the purchase contract, to establish a permanent and habitable dwelling on the unit. The time for compliance with the initiation of residence may be extended by the Project Manager for periods of as long as six months, upon his determination that an extension is necessary to avoid undue hardship to the purchaser and that it will not be detrimental to the orderly development of the irrigation block. The latest permissible date for initiating residence, however, will not be extended for more than one year in addition to the one-year period specified above. In extraordinary situations, the requirements under (1) and (2) above may be waived entirely upon the determination by the Regional Director, after recommendation by the Project Manager, that such waiver will be in the interest of orderly development of the block. Any such waiver, however, shall be conditioned on the requirement that the purchaser reside close enough to his unit to permit him to develop it through his own efforts.

e. *Speculation and landholding limitations.* Purchase contracts and deeds covering farm units offered by this announcement will include provisions governing (1) maximum permissible sizes of holdings of irrigable land; (2) continued conformance of land to the area and boundaries of the farm unit plat for the block; (3) prices at which land can be resold during a period of five years following the date on which water is made available to the irrigation block; (4) disposal of land should it become excess at any time; and (5) limitations as to total area that may be operated on the project whether as lessee or as owner or both.

(f) *Copies of contract form.* The terms listed above, and all other standard contract provisions, are contained in the purchase contract form, copies of

which may be obtained by writing to the Bureau of Reclamation, Ephrata, Washington.

IRRIGATION CHARGES

SEC. 17. *Water rental charges.* During the irrigation season of 1956, while some construction activities will be continuing and the system is being tested, it is expected that the water will be furnished on a temporary rental basis to those desiring it. The terms of payment, which will be at a fixed rate per acre-foot of water used, will be announced by the Regional Director before the beginning of the irrigation season.

SEC. 18. *Development period charges.* Pursuant to the provisions of the repayment contract of October 9, 1945, between the United States and the Quincy-Columbia Basin Irrigation District in the Columbia Basin Project, the Secretary of the Interior will announce a development period of ten years during which time payment of construction charge installments will not be required. This period probably will commence with the calendar year 1957. During the development period, water rental charges will average an estimated $5.50 per year for each irrigable acre as tentatively or finally classified. This figure is preliminary and subject to change because all the data needed to fix the charges are not available nor can they be obtained now. In any event, there will be a minimum charge per farm unit each year whether or not water is used. A notice establishing the details of the plan to be followed and announcing charges and governing provisions for the first year of the development period will be issued prior to January 1 of that year by the Regional Director, who has the responsibility for fixing charges.

The present plans of the Regional Director are (a) to vary the minimum charge according to the anticipated relative repayment ability of the various land classes; (b) to provide for a small minimum charge for the first year and to increase it each year thereafter so that the charge for the tenth year will be approximately equal to the combined construction and operation and maintenance charge for the following year; and (c) to charge for water in excess of the amount furnished for the minimum charge on an acre-foot basis. The minimum charge will entitle each user to a quantity of water to be specified by the Regional Director, varying with the water requirement classification of the land and the size of the farm unit.

In addition to the water rental charges, the Irrigation District will levy an additional charge to cover administrative costs and probable delinquencies in collections.

SEC. 19. *Construction period repayment charges*—a. *Operation and maintenance charges.* After the development period has ended, water users will pay a charge for operation and maintenance of the project irrigation system which will be uniform for the irrigation blocks throughout the project. These charges may or may not be graduated among land classes. Assessment procedure will be left for the Irrigation District Board of Directors to determine, but, in any case, there will be an annual minimum charge per acre. In order to encourage careful use of water, this annual minimum charge will entitle the water user to one-half acre-foot of water per acre less than the amount of water normally required. The normal requirements for the various classes of land will be determined and announced as provided in the repayment contract with the Quincy-Columbia Basin Irrigation District. Water in excess of the quantity covered by the minimum charge will be paid for on an acre-foot basis in accordance with an ascending, graduated scale.

b. *Construction charges.* The contract between the United States and the Quincy-Columbia Basin Irrigation District requires the payment of construction charges for the project irrigation system during the forty years following the development period. The average construction charge per irrigable acre for the entire project will be $2.12 per year. Thus, the total construction charge payment will average $85 per irrigable acre, but that amount was predicated on an estimated total direct irrigation cost of not to exceed $280,782,180 as indicated by Article 6 of the repayment contract, an amount that it now appears is likely to be exceeded. The contract further provides that construction charges shall be graduated according to the relative repayment ability of the land; consequently, the charge per irrigable acre will be larger for the better lands than for the poorer lands. This allocation of construction charges by classes of land will be made as soon as practicable.

FRED G. AANDAHL,
Assistant Secretary of the Interior.

[F. R. Doc. 55-2053; Filed, Mar. 10, 1955; 8:45 a. m.]

DEPARTMENT OF LABOR

Wage and Hour Division

LEARNER EMPLOYMENT CERTIFICATES

ISSUANCE TO VARIOUS INDUSTRIES

Notice is hereby given that pursuant to section 14 of the Fair Labor Standards Act of 1938, as amended (52 Stat. 1068, as amended; 29 U. S. C. and Supp. 214) and Part 522 of the regulations issued thereunder (29 CFR Part 522), special certificates authorizing the employment of learners at hourly wage rates lower than the minimum wage rates applicable under section 6 of the act have been issued to the firms listed below. The employment of learners under these certificates is limited to the terms and conditions therein contained and is subject to the provisions of Part 522. The effective and expiration dates, occupations, wage rates, number or proportion of learners, and learning period for certificates issued under the general learner regulations (§§ 522.1 to 522.14) are as indicated below; conditions provided in certificates issued under special industry regulations are as established in these regulations.

Single Pants, Shirts and Allied Garments, Women's Apparel, Sportswear and Other Odd Outerwear, Rainwear, Robes, and Leather and Sheep-lined Garments Divisions of the Apparel Industry Learner Regulations (29 CFR 522.160 to 522.168, as amended July 5, 1954, 19 F. R. 3326).

Alan Manufacturing Co., 695 Hazle Street, Wilkes-Barre, Pa., effective 3-11-55 to 3-10-56; 10 learners for normal labor turnover purposes (dresses).

Dodge Manufacturing Co., Eastman, Ga., effective 3-1-55 to 8-31-55; 15 learners for plant expansion purposes (men's and boys' sport shirts).

Dublin Garment Co., Dublin, Ga., effective 2-26-55 to 2-25-56; 10 percent of the total number of factory production workers for normal labor turnover purposes (sport shirts).

E & W Garments, Inc., 1622 Washington Street, Vicksburg, Miss., effective 2-28-55 to 8-27-55; 25 learners for plant expansion purposes. (Learners are not authorized to be employed at subminimum wage rates in the production of separate skirts) (dresses and sportswear).

Frackville Manufacturing Co., Lebanon, Pa., effective 2-28-55 to 2-27-56; 10 percent of the total number of factory production workers for normal labor turnover purposes (pajamas, night shirts and operating gowns).

Frackville Manufacturing Co., Schaefferstown, Pa., effective 2-28-55 to 2-27-56; 10 percent of the total number of factory production workers for normal labor turnover purposes (pajamas, night shirts, and operating gowns, etc.).

Freeland Manufacturing Co., 156 Ridge Street, Freeland, Pa., effective 3-1-55 to 2-29-56; 10 percent of the total number of factory production workers for normal labor turnover purposes (sport jackets, work clothes).

Jinright Manufacturing Co., Coleman, Tex., effective 2-28-55 to 2-27-56; 10 learners for normal labor turnover purposes (blue jeans, shirts, western jackets).

Joel Manufacturing Co., 144 Hazle Street, Wilkes-Barre, Pa., effective 2-25-55 to 2-24-56; 5 learners for normal labor turnover purposes (dresses).

W. Koury Co., Chatham Street, Sanford, N. C., effective 2-23-55 to 2-22-56; 10 percent of the total number of factory production workers for normal labor turnover purposes (men's work pants, and boys' pants).

Lady Ester Lingerie Corp., Tenth and Walnut Streets, Berwick, Pa., effective 2-25-55 to 8-24-55; 20 learners for expansion purposes (ladies' slips, etc.).

Morehead City Garment Co., Inc., 1504-08 Bridges Street, Morehead City, N. C., effective 2-24-55 to 2-23-56; 10 percent of the total number of factory production workers for normal labor turnover purposes (sport and utility shirts).

Quarles Manufacturing Co., Ranger, Tex., effective 2-25-55 to 2-24-56; 5 learners for normal labor turnover purposes (men's pants, boys' western and dress pants).

Southeastern Garment Co., Ltd., 128 Lumpkin Street, Monroe, Ga., effective 2-28-55 to 2-27-56; 10 percent of the total number of factory production workers for normal labor turnover purposes (men's and boys' pants).

Supak & Sons Manufacturing Co., Weeksville, Highway, Elizabeth City, N. C., effective 2-25-55 to 8-9-55; 150 learners for plant expansion purposes. (Learners are not authorized to be employed at subminimum wage rates in the production of children's dress coats) (children's and infants' snowsuits, storm coats, and dress coats.)

Toll-Gate Garment Co., Inc., Hamilton, Ala., effective 2-23-55 to 2-22-56; 10 percent of the total number of factory production workers for normal labor turnover purposes (men's sport shirts).

Valley Dress Co., 9 Pine Street., Pittston, Pa., effective 2-23-55 to 2-22-56; 5 learners for normal labor turnover purposes (women's dresses).

Wright Garment Co., Bowman, Ga., effective 2-28-55 to 2-27-56; 10 percent of the total number of factory production workers for normal labor turnover purposes (cotton work pants, semidress slacks).

Wythe Shirt Corp., Wytheville, Va., effective 2-23-55 to 8-22-55, 25 learners for plant expansion purposes (boys' shirts).

Knitted Wear Industry Learner Regulations (29 CFR 522.68 to 522.79, as amended January 21, 1952, 16 F. R. 12866).

Seamprufe, Inc., The William Caplin Plant, Holdenville, Okla.; effective 3-6-55 to 3-5-56; 5 percent of the total number of factory production workers for normal labor turnover purposes (slips and lingerie).

Shoe Industry Learner Regulations (29 CFR 522.250 to 522.260, as amended March 17, 1952, 17 F. R. 1500).

Altoona Shoe Co., Inc., 201 Cayuga Avenue, Altoona, Pa., effective 2-24-55 to 2-23-56; 10 percent of the total number of factory production workers for normal labor turnover purposes.

Altoona Shoe Co., Inc., 201 Cayuga Avenue, Altoona, Pa., effective 2-24-55 to 8-23-55; 50 learners for plant expansion purposes.

Martinsburg Shoe Co., Inc., 107 Highland Street, Martinsburg, Pa., effective 2-24-55 to 2-23-56; 10 percent of the total number of factory production workers for normal labor turnover purposes.

Martinsburg Shoe Co., Inc., 107 Highland Street, Martinsburg, Pa., effective 2-24-55 to 8-23-55; 50 learners for plant expansion purposes.

Regulations Applicable to the Employment of Learners (29 CFR 522.1 to 522.12, as amended January 29, 1955, 20 F. R. 645).

Haspel, Inc., Tylertown, Miss., effective 2-25-55 to 2-24-56; 7 percent of the total number of factory production workers, for normal labor turnover purposes, machine operators (except cutting), pressing, hand sewers; each 480 hours, at least 65 cents an hour for the first 240 hours and at least 70 cents an hour for the remaining 240 hours (men's and boys' summer clothing).

Newberry Bagging & Tie Co., Newberry, S. C., effective 2-28-55 to 8-27-55; 2 learners for normal labor turnover purposes, sewing machine operators, 160 hours at 65 cents per hour (bagging (cotton covering) and ties).

Each certificate has been issued upon the employer's representation that employment of learners at subminimum rates is necessary in order to prevent curtailment of opportunities for employment, and that experienced workers for the learner occupations are not available. The certificates may be cancelled in the manner provided in the regulations and as indicated in the certificates. Any person aggrieved by the issuance of any of these certificates may seek a review or reconsideration thereof within fifteen days after publication of this notice in the FEDERAL REGISTER pursuant to the provisions of Part 522.

Signed at Washington, D. C., this 2d day of March 1955.

MILTON BROOKE,
Authorized Representative of the Administrator.

[F. R. Doc. 55-2054; Filed, Mar. 10, 1955; 8:46 a. m.]

DEPARTMENT OF AGRICULTURE

Office of the Secretary

MINNESOTA

DESIGNATION OF AREAS FOR EMERGENCY LOANS

For the purpose of making emergency loans pursuant to Public Law 727, 83d Congress, it is determined that in the following named counties in the State of Minnesota there is a need for agricultural credit which cannot be met for a temporary period from commercial banks, cooperative lending agencies, the Farmers Home Administration under its regular programs, or under Public Law 38, 81st Congress (12 U. S. C. 1148a-a (a)), as amended, or other responsible sources.

Pursuant to the authority as set forth above, such loans will not be made in the following named counties in the State of Minnesota after June 30, 1955.

STATE OF MINNESOTA

Beltrami, Freeborn, Grant, Kittson, Lake of the Woods, Marshall, Otter Tail, Pennington, Red Lake, Roseau, Stevens, Swift.

Done at Washington, D. C., this 7th day of March 1955.

[SEAL] E. L. PETERSON,
Acting Secretary.

[F. R. Doc. 55-2071; Filed, Mar. 10, 1955; 8:50 a. m.]

FEDERAL COMMUNICATIONS COMMISSION

[Docket Nos. 8258, 8753; FCC 55M-212]

TEXAS STAR BROADCASTING CO. AND KTRH BROADCASTING CO. (KTRH)

ORDER CONTINUING HEARING

In re applications of Roy Hofheinz and W. N. Hooper, d/b as Texas Star Broadcasting Company, Dallas, Texas, Docket No. 8258, File No. BP-5820; KTRH Broadcasting Company (KTRH) Houston, Texas, Docket No. 8753, File No. BP-6525; for construction permits.

The Commission having under consideration a joint petition filed on March 7, 1955, on behalf of Roy Hofheinz and W. N. Hooper, d/b as Texas Star Broadcasting Company and KTRH Broadcasting Company (KTRH), applicants, and Democrat Printing Company (KSEO), intervenor, in the above-entitled proceeding, requesting that the hearing therein now scheduled to be held on March 15, 1955, be postponed until April 18, 1955, and that the pre-hearing conference therein, now scheduled to be held on March 8, 1955, be postponed until April 4, 1955; and

It appearing that counsel for the Chief of the Broadcast Bureau of this Commission, the only other party to the proceeding, has orally consented to a grant of the said petition; and

It further appearing that sufficient good cause has been set forth in the said petition to warrant a grant of the relief requested therein;

It is ordered, This 7th day of March 1955, that the above petition be, and it is hereby, granted; that the pre-hearing conference in the above-entitled proceeding is hereby continued until April 4, 1955; and that the hearing therein is hereby continued until April 18, 1955.

FEDERAL COMMUNICATIONS COMMISSION,
[SEAL] MARY JANE MORRIS,
Secretary.

[F. R. Doc. 55-2067; Filed, Mar. 10, 1955; 8:49 a. m.]

[Docket No. 11048; FCC 55M-210]

DISPATCH, INC.

ORDER SCHEDULING ORAL ARGUMENT

In re application of Dispatch, Inc., Erie, Pennsylvania, Docket No. 11048, File No. BRCT-42; for renewal of license of television station WICU.

On the oral request of counsel for the Chief, Broadcast Bureau, and without objection by connsel for applicant: *It is ordered*, This 7th day of March 1955, that time for filing response to applicant's Motion for Decision, filed on March 1, 1955, otherwise due on March 7, 1955, is extended to and including Thursday, March 10, 1955.

It is further ordered, That an oral argument on the motion and response is scheduled for Wednesday, March 16, 1955, at 10:00 a. m., in the offices of the Commission, Washington, D. C.

FEDERAL COMMUNICATIONS COMMISSION,
[SEAL] MARY JANE MORRIS,
Secretary.

[F. R. Doc. 55-2068; Filed, Mar. 10, 1955; 8:49 a. m.]

[Docket Nos. 11291-11293]

INDIANA BELL TELEPHONE CO. AND UNION TELEPHONE CO.

ORDER ASSIGNING APPLICATIONS FOR CONSOLIDATED PUBLIC HEARING

In the matter of the application of Indiana Bell Telephone Company, Docket No. 11291, File No. P-C-3532; for a certificate under section 221 (a) of the Communications Act of 1934, as amended, to acquire certain telephone plant and properties of New London Cooperative Telephone Company, New London, Indiana; Indiana Bell Telephone Company, Docket No. 11292, File No. P-C-3553; for a certificate under section 221 (a) of the Communications Act of 1934, as amended, to acquire certain telephone plant and properties of St. Philip Telephone Company, St. Philip, Indiana; Union Telephone Company, Docket No. 11293, File No. P-C-3544; for a certificate under section 221 (a) of the Communications Act of 1934, as amended, to acquire certain telephone plant and properties of The New Washington Telephone Corporation, New Washington, Indiana.

The Commission having under consideration applications filed by Indiana Bell Telephone Company and Union Telephone Company for certificates under section 221 (a) of the Communications Act of 1934, as amended, that the proposed acquisition by Indiana Bell

Telephone Company of certain telephone plant and properties of New London Cooperative Telephone Company and St. Philip Telephone Company and by Union Telephone Company of certain telephone plant and property of The New Washington Telephone Corporation furnishing telephone service in and around New London, St. Philip and New Washington, Indiana, respectively will be of advantage to the persons to whom service is to be rendered and in the public interest;

It is ordered, This 4th day of March 1955, that pursuant to the provisions of section 221 (a) of the Communications Act of 1934, as amended, the above applications are assigned for public hearing in a consolidated proceeding for the purpose of determining whether the proposed acquisitions will be of advantage to the persons to whom service is to be rendered and in the public interest;

It is further ordered, That the hearing upon said applications be held at the offices of the Commission in Washington, D. C., beginning at 10:00 a. m. on the 19th day of April 1955, and that a copy of this order shall be served upon the Governor of Indiana, Public Service Commission of Indiana, each of the above-named telephone companies and the Postmasters of New London, St. Philip and New Washington, Indiana;

It is further ordered, That within ten days after the receipt from the Commission of a copy of this order, the applicants herein shall cause a copy hereof to be published in a newspaper or newspapers having general circulation in the above-mentioned communities and the counties in which the properties are located and shall furnish proof of such publication at the hearing herein.

Released: March 7, 1955.

FEDERAL COMMUNICATIONS COMMISSION,
[SEAL] MARY JANE MORRIS,
Secretary.

[F. R. Doc. 55-2069; Filed, Mar. 10, 1955; 8:49 a. m.]

GENERAL SERVICES ADMINISTRATION

[Docket No. G-4264]

SECRETARY OF DEFENSE

DELEGATION OF AUTHORITY TO REPRESENT FEDERAL GOVERNMENT BEFORE FEDERAL POWER COMMISSION IN THE MATTER OF INCREASED GAS RATES FOR SOUTHERN NATURAL GAS CO.

1. Pursuant to the provisions of sections 201 (a) (4) and 205 (d) and (e) of the Federal Property and Administrative Services Act of 1949, 63 Stat. 377, as amended, authority to represent the interests of the executive agencies of the Federal Government in the matter of Southern Natural Gas Company, Increased Gas Rates, Docket No. G-4264, before the Federal Power Commission, is hereby delegated to the Secretary of Defense.

2. The Secretary of Defense is hereby authorized to redelegate any of the authority contained herein to any officer, official or employee of the Department of Defense.

3. The authority conferred herein shall be exercised in accordance with the policies, procedures and controls prescribed by the General Services Administration, and shall further be exercised in cooperation with the responsible officers, officials and employees of such Administration.

4. This delegation of authority shall be effective December 2, 1954.

Dated: March 7, 1955.

EDMUND F. MANSURE,
Administrator.

[F. R. Doc. 55-2078; Filed, Mar. 9, 1955; 12:42 p. m.]

FEDERAL POWER COMMISSION

[Docket Nos. G-4280—G-4283]

NATURAL GAS PIPELINE CO. OF AMERICA ET AL.

NOTICE OF CONTINUANCE

MARCH 3, 1955.

In the matters of Natural Gas Pipeline Company of America, Docket No. G-4280; Mid-Continent Petroleum Company, Docket No. G-4281; Warren Petroleum Corporation, Docket No. G-4282; Oil Drilling, Inc., et al., Docket No. G-4283.

Notice is hereby given that the hearing now scheduled for March 8, 1955, in the above-designated matters is continued to April 5, 1955, at 10:00 a. m., in a Hearing Room of the Federal Power Commission, 441 G Street NW., Washington, D. C.

[SEAL] LEON M. FUQUAY,
Secretary.

[F. R. Doc. 55-2061; Filed, Mar. 10, 1955; 8:47 a. m.]

[Docket No. G-8215]

TENNESSEE GAS TRANSMISSION CO.

NOTICE OF APPLICATION AND DATE OF HEARING

MARCH 4, 1955.

Take notice that Tennessee Gas Transmission Company (Applicant), a Delaware corporation whose address is Commerce Building, Houston, Texas, filed an application on January 27, 1955, for a certificate of public convenience and necessity, pursuant to section 7 of the Natural Gas Act, authorizing Applicant to render service as hereinafter described, subject to the jurisdiction of the Commission, all as more fully represented in the application which is on file with the Commission and open for public inspection.

Applicant seeks authorization to construct new facilities in lieu of facilities previously authorized but not yet constructed. Initially the proposed 30-inch line will be capable of transporting up to 270,000 Mcf of natural gas per day from Applicant's Compressor Station No. 1 near Agna Dulce, Nueces County, Texas, to its Compressor Station No. 507 near Kinder, Jefferson Davis Parish, Louisiana, a distance of 370 miles, at which point gas will be delivered into Applicant's existing pipeline system and transported eastward to fulfill Applicant's contractual commitments to customers as authorized by the Commission in Docket No. G-1969 and prior dockets.

This matter is one that should be disposed of as promptly as possible under the applicable rules and regulations and to that end:

Take further notice that, pursuant to the authority contained in and subject to the jurisdiction conferred upon the Federal Power Commission by sections 7 and 15 of the Natural Gas Act, and the Commission's rules of practice and procedure, a hearing will be held on April 4, 1955, at 10:00 a. m., e. s. t., in a Hearing Room of the Federal Power Commission, 441 G Street NW., Washington, D. C., concerning the matters involved in and the issues presented by such application: *Provided, however,* That the Commission may, after a non-contested hearing, dispose of the proceedings pursuant to the provisions of § 1.30 (c) (1) or (2) of the Commission's rules of practice and procedure.

Protests or petitions to intervene may be filed with the Federal Power Commission, Washington 25, D. C., in accordance with the rules of practice and procedure (18 CFR 1.8 or 1.10) on or before March 28, 1955. Failure of any party to appear at and participate in the hearing shall be construed as waiver of and concurrence in omission herein of the intermediate decision procedure in cases where a request therefor is made.

[SEAL] LEON M. FUQUAY,
Secretary.

[F. R. Doc. 55-2062; Filed, Mar. 10, 1955; 8:47 a. m.]

[Docket No. G-8430]

FRANK A. WARNER

NOTICE OF APPLICATION

MARCH 4, 1955.

Take notice that Frank A. Warner (Applicant) of Minneapolis, Minnesota, filed application, on January 31, 1955, for a certificate of public convenience and necessity, pursuant to section 7 of the Natural Gas Act, authorizing Applicant to sell natural gas, subject to the jurisdiction of the Commission, all as more fully described in the application.

Applicant proposes to sell to Montana-Dakota Utilities Co. a maximum of 2,000 Mcf and a minimum of 500 Mcf per day of natural gas produced in the Baker Field in Fallon County, Montana. Applicant proposes to sell gas at 5 cents per Mcf and an additional 5 cents for gathering and delivery of the gas to the Montana-Dakota Utilities Co. pipeline in the Baker Field.

Protests or petitions to intervene may be filed with the Commission in accordance with §§ 1.8 or 1.10 of its rules of practice and procedure (18 CFR 1.8 and 1.10), on or before March 28, 1955. The

application is on file with the Commission for public inspection.

[SEAL] LEON M. FUQUAY,
Secretary.

[F. R. Doc. 55–2063; Filed, Mar. 10, 1955; 8:48 a. m.]

[Docket No. G–8534]

PHILLIPS PETROLEUM CO.

ORDER GRANTING APPLICATION FOR REHEARING

Phillips Petroleum Company (Phillips) on February 2, 1955, filed an application for rehearing on the rejection of its rate schedules tentatively designated in the Commission's files as Phillips' FPC Gas Rate Schedule Nos. 196 and 201.[1] The proposed rate schedules tendered for filing by Phillips on December 1, 1954, pursuant to Order No. 174–A, cover the sale of gas to Panhandle Eastern Pipeline Company (Panhandle) from two wells located in the Panhandle Field, Moore County, Texas.

The Commission by letter dated January 3, 1955, rejected Phillips' two proposed rate schedules as not acceptable for filing as rates in effect on June 7, 1954, since the rates proposed therein were not actually in effect on that date.

By letters dated February 14, 1955, Panhandle protests the filing of these rate schedules by Phillips on the assertion that there has been no agreement between the parties with respect to the price to be charged for the sale of gas from Phillips' two wells. Phillips also states in its application for rehearing that there is no specified contract price for these sales to Panhandle. Therefore, it appears desirable for the Commission to hold a public hearing on the matters herein to determine whether Phillips' tendered rate schedules were filed in compliance with the Commission's rules and to determine what would constitute properly filed rate schedules.

The Commission finds: A hearing should be granted Phillips Petroleum Company for determination as to whether the aforesaid tendered filings were in compliance with the Commission's rules and as to what would constitute properly filed rate schedules.

The Commission orders: A public hearing be held, pursuant to the authority contained in and subject to the jurisdiction conferred upon the Federal Power Commission by sections 15 and 19 (a) of the Natural Gas Act, and the Commission's rules of practice and procedure, commencing on May 2, 1955, at 10:00 a. m., e. d. s. t., in a Hearing Room of the Federal Power Commission, 441 G Street NW., Washington, D. C., concerning the matters involved and the issues presented by the application.

Adopted: March 2, 1955.

Issued: March 4, 1955.

By the Commission.

[SEAL] LEON M. FUQUAY,
Secretary.

[F. R. Doc. 55–2064; Filed, Mar. 10, 1955; 8:48 a. m.]

[1] Identified by Phillips as its rate schedule Nos. 241 and 242.

SECURITIES AND EXCHANGE COMMISSION

[File No. 1–2331]

FANSTEEL METALLURGICAL CORP.

NOTICE OF APPLICATION TO WITHDRAW FROM LISTING AND REGISTRATION, AND OF OPPORTUNITY FOR HEARING

MARCH 7, 1955.

In the matter of Fansteel Metallurgical Corporation, Common Stock, $5 Par Value; File No. 1–2331.

The above named issuer, pursuant to section 12 (d) of the Securities Exchange Act of 1934 and Rule X-12D2–1 (b) promulgated thereunder, has made application to withdraw the specified security from listing and registration on the Midwest Stock Exchange.

The reasons alleged in the application for withdrawing this security from listing and registration include the following:

The stock is inactive on the Midwest Stock Exchange.

The stock will continue to be listed and registered on the New York Stock Exchange.

Withdrawal from the Midwest Stock Exchange will eliminate the expense and inconvenience of maintaining said listing.

The Midwest Stock Exchange has waived that portion of its rules requiring stockholder approval of a delisting.

Upon receipt of a request, on or before March 28, 1955, from any interested person for a hearing in regard to terms to be imposed upon the delisting of this security, the Commission will determine whether to set the matter down for hearing. Such request should state briefly the nature of the interest of the person requesting the hearing and the position he proposes to take at the hearing with respect to imposition of terms. In addition, any interested person may submit his views or any additional facts bearing on this application by means of a letter addressed to the Secretary of the Securities and Exchange Commission, Washington 25, D. C. If no one requests a hearing on this matter, this application will be determined by order of the Commission on the basis of the facts stated in the application and other information contained in the official file of the Commission pertaining to the matter.

By the Commission.

[SEAL] ORVAL L. DUBOIS,
Secretary.

[F. R. Doc. 55–2058; Filed, Mar. 10, 1955; 8:47 a. m.]

[File No. 70–3318]

WESTERN KENTUCKY GAS CO.

ORDER REGARDING MERGER OF PUBLIC UTILITY SUBSIDIARY OF REGISTERED HOLDING COMPANY WITH PARENT COMPANY

MARCH 7, 1955.

Western Kentucky Gas Company ("Western"), a registered holding company, has filed a declaration with this Commission pursuant to section 12 of the Public Utility Holding Company Act of 1935 ("act") and Rules U-42, U-43 and U-45 of the general rules and regulations promulgated under the act with respect to the following proposed transacitons:

Western, a Delaware corporation, is engaged in the distribution of natural gas at retail in 47 communities in central and western Kentucky, including Owensboro, Bowling Green and Paducah.

Western owns all of the 3,800 shares, $5.00 par value, of the outstanding common stock of Shelbyville Gas Company ("Shelbyville"), a Delaware corporation, which constitutes all of Shelbyville's outstanding securities. Shelbyville is engaged in the distribution at retail of liquified petroleum gas in the Town of Shelbyville, Kentucky, and environs.

Shelbyville proposes to transfer to Western, and Western proposes to acquire, all of Shelbyville's properties, assets and business. In consideration therefor, Western proposes to surrender, and Shelbyville proposes to acquire and cancel, all of the outstanding shares of Shelbyville's common stock. Shelbyville will thereafter dissolve.

The Public Service Commission of Kentucky has authorized Shelbyville to liquidate, wind up its affairs, dissolve and transfer all of its assets to Western in consideration of the surrender by Western of all outstanding common stock of Shelbyville and the assumption by Western of all of Shelbyville's liabilities, although it does not appear that the Kentucky Commission has as yet approved the accounting treatment proposed by Western in connection with such transactions.

Notice regarding the filing of said declaration having been given pursuant to Rule U-23 and no hearing having been requested of, or ordered by, the Commission; and the Commission finding that the applicable provisions of the act and the rules promulgated thereunder are satisfied, and that said declaration should be permitted to become effective forthwith except that the Commission deems it inappropriate to approve or disapprove the accounting treatment applicable to the proposed transactions as set forth in the declaration:

It is ordered, Pursuant to Rule U-23, that said declaration be, and the same hereby is, permitted to become effective forthwith subject to the terms and conditions prescribed in Rule U-24: *Provided, however,* That nothing herein contained shall be deemed to constitute approval or disapproval of the accounting treatment as set forth in the declaration herein.

By the Commission.

[SEAL] ORVAL L. DUBOIS,
Secretary.

[F. R. Doc. 55–2056; Filed, Mar. 10, 1955; 8:46 a. m.]

[File No. 70–3336]

CONSOLIDATED NATURAL GAS CO. ET AL.

ORDER AUTHORIZING PROPOSED BORROWING BY PARENT FROM BANKS, AND ISSUE AND SALE TO PARENT OF NOTES BY SUBSIDIARY COMPANIES

MARCH 7, 1955.

In the matter of Consolidated Natural Gas Company, Hope Natural Gas Com-

pany, The Peoples Natural Gas Company, New York State Natural Gas Corporation; File No. 70-3336.

Consolidated Natural Gas Company ("Consolidated"), a registered holding company, and three of its subsidiaries, Hope Natural Gas Company ("Hope"), The Peoples Natural Gas Company ("Peoples") and New York State Natural Gas Corporation ("New York State"), have filed a joint application-declaration and amendments thereto, with this Commission pursuant to sections 6 (b), 7, 9 (a), 10 and 12 (f) of the Public Utility Holding Company Act of 1935 ("act") and Rules U-43 and U-45 promulgated thereunder with respect to the following proposed transactions:

Consolidated proposes to borrow, on or about March 15, 1955, an aggregate of $20,000,000 from banks upon its unsecured promissory notes bearing the then prevailing prime rate of interest. Such notes are to have a maturity within twelve months of the borrowing date with the right to prepayment, in whole or in part, at any time without penalty.

Consolidated also proposes, on or about March 15, 1955, to make short-term loans in the aggregate principal amount of $22,500,000 to Hope, Peoples and New York State in the amounts of $4,500,000, $8,000,000, and $10,000,000, respectively. These loans are to be in the form of non-negotiable notes of such subsidiaries, bearing the same rate of interest as borne by the notes to be issued by Consolidated and maturing on or before the date of maturity of the borrowings of Consolidated.

It is stated that the borrowings proposed by Consolidated are for the purpose of paying Consolidated's outstanding notes to banks and the borrowings by the subsidiaries are to pay an equivalent amount of notes previously issued to Consolidated. Such securities bear interest at the rate of 2 percent and mature March 15, 1955.

It is represented that no State commission or Federal commission other than this Commission has jurisdiction over the proposed issuance and sale of notes by Consolidated, Peoples and New York State. The Public Service Commission of West Virginia has authorized the proposed issuance and sale of notes by Hope.

According to the filing no fees, commissions or other remuneration are being paid in conection with the proposed transactions.

Applicants-declarants request that this Commission's order become effective upon issuance.

Due notice of filing of said application-declaration having been given pursuant to the provisions of Rule U-23 promulgated under the act, and no hearing having been requested of, or ordered by, the Commission; the Commission finding that the applicable provisions of the act and the rules thereunder are satisfied; and that said application-declaration should be granted and permitted to become effective forthwith:

It is ordered, Pursuant to Rule U-23 and the applicable provisions of the act, that said application-declaration, as amended, be, and the same hereby is, granted and permitted to become effective forthwith.

By the Commission.

[SEAL] ORVAL L. DUBOIS, *Secretary.*

[F. R. Doc. 55-2055; Filed, Mar. 10, 1955; 8:46 a. m.]

[File No. 70-3346]

ARKANSAS POWER & LIGHT CO.

NOTICE OF FILING REGARDING ISSUANCE OF PREFERRED STOCK AND BONDS AND AMENDMENT OF CERTIFICATE OF INCORPORATION

MARCH 7, 1955.

Notice is hereby given that Arkansas Power & Light Company ("Arkansas"), a public-utility subsidiary company of Middle South Utilities, Inc., a registered holding company, has filed with this Commission an application-declaration pursuant to the Public Utility Holding Company Act of 1935 ("act") and has designated sections 6, 7 and 12 of said act as applicable to the proposed transactions, which are summarized as follows:

(a) Arkansas proposes to issue and sell $18,000,000 principal amount of its First Mortgage Bonds, __ Percent Series due 1985 (hereinafter sometimes called the "Bonds") to be issued under Arkansas' Mortgage and Deed of Trust, dated as of October 1, 1944, to Guaranty Trust Company of New York and Henry A. Theis (Herbert E. Twyeffort, successor), as Trustees, as heretofore supplemented and as to be further supplemented by a Ninth Supplemental Indenture to be dated as of April 1, 1955. The coupon rate of the Bonds (which shall be a multiple of ⅛ of 1 percent) and the price (exclusive of accrued interest) to be paid to Arkansas for the Bonds (which shall be not less than the principal amount thereof and not more than 102¾ percent of such principal amount) will be fixed by competitive bidding which will be conducted in accordance with the Commission's Rule U-50.

The net proceeds to be received by Arkansas from the issue and sale of the Bonds, together with treasury funds, will be used to retire all of the $18,000,000 First Mortgage Bonds, 4¼ percent Series due 1983, presently outstanding.

(b) Arkansas has outstanding 47,609 shares of $7 Preferred Stock, 45,891 shares of $6 Preferred Stock, each without par value (hereinafter sometimes collectively called "Old Preferred Stock"), and 70,000 shares of 4.32 percent Preferred Stock with par value of $100 per share. Arkansas proposes to refinance its Old Preferred Stock by issuing 93,500 shares of a new series of its Preferred Stock, $100 par value, the rights, privileges and other distinguishing characteristics of which will be identical, except as to dividends and redemption prices, with those of its 4.32 percent Preferred Stock, to be disposed of as follows: The holders of the Old Preferred Stock will be offered the privilege of exchanging their shares for shares of the new series of Preferred Stock on the basis of one share of new stock for each share held and cash in an amount equal to $5 per share plus an additional cash amount per share, which will vary as between the $7 Preferred Stock and the $6 Preferred Stock, equal to dividends on a share of Old Preferred Stock from April 1, 1955 to May 27, 1955, the proposed redemption date of the unexchanged shares of Old Preferred Stock, less the amount of the dividend to accrue on a share of the new series of Preferred Stock during such period. Unexchanged shares of new Preferred Stock will be sold to the Underwriters, who will reoffer the same at a proposed initial public offering price of $105 per share, and the unexchanged shares of $7 Preferred Stock and $6 Preferred Stock will be called for redemption at their redemption price of $110 per share plus accrued dividends to the date of redemption.

The dividend rate of the new series of Preferred Stock is to be supplied by amendment; the dividend rate to be such as, in the best judgment of Arkansas, will give said shares a market value of approximately $105 per share at the time of the exchange offer.

Arkansas proposes to enter into a contract with Underwriters who will agree to use their best efforts to obtain exchanges and to purchase the unexchanged stock. The compensation to be paid for such services and purchase is to be fixed by competitive bidding pursuant to Rule U-50. The contract will provide for the formation and management of a group of securities dealers by the Underwriters to solicit exchanges under Arkansas's exchange offer, such group to include all securities dealers having offices in the State of Arkansas who are members in good standing of the National Association of Securities Dealers, Inc., and who may desire to participate in such solicitation. The soliciting dealer group also may include such other dealers who are members of said Association as may be selected by the Underwriters. Such soliciting dealers (and any Underwriters) will be paid compensation by the Representative, upon receipt from the company of funds therefor, on the basis of $1.00 per share in respect of each share of Old Preferred Stock deposited for exchange with a Letter of Transmittal naming the soliciting dealer as having solicited such exchange: *Provided, however*, That the maximum payment to be made in respect of a deposit of shares of Old Preferred Stock by any one stockholder shall be $150, except where separate solicitations are made of the beneficial owners, and the minimum payment shall be $5.00. Arkansas will pay or reimburse the Representative for the aggregate compensation payable to soliciting dealers, plus an overriding fee equal to 10 percent of such aggregate compensation payable to soliciting dealers: *Provided, however*, That the Underwriters shall have concurrently purchased and paid for the unexchanged stock.

In the event that any Underwriter disposes of any unexchanged stock prior to the expiration of 60 days following the expiration of the exchange offer at a price which, after deducting any selling

concession and Federal and state stock transfer taxes, is in excess of the "initial public offering price," such Underwriter shall share the aggregate amount of such excess equally with Arkansas.

Arkansas proposes, concurrently with the issuance of the new Preferred Stock, to amend its Certificate of Incorporation so as to eliminate authorization of the Old Preferred Stock.

The application-declaration further states that the Arkansas Public Service Commission, the State Commission of the State in which Arkansas is organized and doing business, has jurisdiction, and the Railroad and Public Utilities Commission of the State of Tennessee, the State commission of a State in which Arkansas also does business, asserts jurisdiction, to authorize or approve the proposed transactions, and that no other State regulatory commission or any Federal commission, other than this Commission, has jurisdiction over such transactions.

The application-declaration requests that the Commission's order herein become effective forthwith upon its issuance.

Notice is further given that any interested person may, not later than March 22, 1955, at 5:30 p. m., request the Commission in writing that a hearing be held on such matter, stating the reasons for such request, the nature of his interest and the issues of fact or law raised by said filing which he desires to controvert, or may request that he be notified if the Commission should order a hearing thereon. Any such request should be addressed: Secretary, Securities and Exchange Commission, Washington 25, D. C. At any time after said date, said application-declaration, as filed or as amended, may be granted and permitted to become effective, as provided in Rule U-23 of the rules and regulations promulgated under the act, or the Commission may exempt such transactions as provided in Rules U-20 (a) and U-100 thereof.

By the Commission.

[SEAL] ORVAL L. DUBOIS,
Secretary.

[F. R. Doc. 55-2057; Filed, Mar. 10, 1955; 8:46 a. m.]